Figure: 19 TAC §74.6(b)

College and Career Readiness Standards / Texas Essential Knowledge and Skills Alignment

Mathematics

CCRS	Foundation		Enrichment	
	Math	Science	CTE	Technology Applications
I. Numeric Reasoning				
A. Number representations and operations				
I.A.1. Compare relative magnitudes of rational and irrational numbers, [real numbers] and understand that numbers can be represented in different ways.	Kindergarten: (2)(A), (2)(C), (2)(E)-(H) Grade 1: (2)(D)-(G), (5)(A), (5)(C) Grade 2: (2)(C)-(F), (3)(B), (7)(B), (9)(B)-(C) Grade 3: (2)(B)-(D), (3)(F)-(H) Grade 4: (2)(A), (2)(C), (2)(F)-(H), (3)(D), (3)(G) Grade 5: (2)(B), (4)(A) Grade 6: (2)(B), (2)(D), (5)(C), (5)(F) Grade 8: (2)(D), (12)(D) Advanced Quantitative Reasoning: (2)(A)	Grade 8: [(5)(F),] (8)(B)-(C) [(8)(B)-(D)] Astronomy: (6)(A)-(D), (9)(A)-(B), (10)(A), (11)(E) Chemistry: (5)(C) Earth and Space Science: (5)(E)-(F), (15)(C) Integrated Physics and Chemistry: (4)(C)-(D), (4)(F) [-(G)]-, (5)(F), [(5)(H), (6)(A),] (6)(C) [-(E)], (7)(B)-(C) [(7)(A)-(F)] Physics: (4)(A)-(D), (5)(B)-(C), [(5)(H),] (7)(B)-(E) [(7)(B)-(D)] , (8)(B)-(C)	[Accounting II: (1)(B), (4)(H), (6)(K)(iii), (6)(K)(v), (6)(R)(v); Applied Mathematics for Technical Professionals: (5)(C); Engineering Mathematics: (6)(B), (7)(C), (8)(E), (9)(D), (9)(G), (11)(A), (11)(D)-(F); Financial Mathematics: (3)(B), (3)(G), (3)(K)-(L), (4)(E), (4)(K), (5)(D)-(F), (6)(A), (6)(C), (7)(A), (7)(C), (7)(I), (7)(K)-(L), (8)(C)-(D), (9)(A), (9)(C)-(D), (10)(A), (10)(E), (11)(A), (14), (15)(C), (17)(F); Manufacturing Engineering Technology II: (3)(B); Mathematical Applications in Agriculture, Food, and Natural Resources: (5)(A); Mathematics for Medical Professionals: (3)(B), (6)(A)-(B); Robotics II: (8)(F)-(G), (8)(I); Statistics and Business Decision Making: (6)(A)-(B), (7)(B)-(C); Principles of Technology: (4)(F), (12)(D), (13)(D); Engineering Science: (12)(E); Biotechnology I: (7)(C); Biotechnology II: (4)(G); Scientific Research and Design: (4)(G); Securities and Investments: (4)(A-E); Banking and Financial Services: (9)(B); Accounting I: (10)(C)(E), (11)(C-E), Financial Analysis: (5)(B)-(C),(6)(B); Welding II: (3)(E)] Accounting II: (4)(H); Engineering Mathematics: (9)(D), (11)(E); Financial Mathematics: (3)(K), (4)(K), (7)(I), (8)(C)-(D); Mathematical Applications in Agriculture, Food, and Natural Resources: (5)(A); Mathematics for Medical Professionals: (6)(A)-(B); Principles of Technology: (4)(E), (12)(D); Engineering Science: (12)(E); Biotechnology II: (4)(G); Scientific Research and Design: (4)(G); Securities and Investments: (4)(A-E); Banking and Financial Services: (9)(B); Accounting I: (10)(C)(E), (11)(C-E), Financial Analysis: (5)(B)-(C),(6)(B); Welding II: (3)(E)	Robotics Programming and Design: (5)(E), (7)(R)
I.A.2. Perform computations with rational and irrational numbers. [Define and give examples of complex numbers.]	Kindergarten: (2)(I), (3)(A)-(C) Grade 1: (3)(A)-(F), (4)(C), (5)(B), (5)(F)-(G) Grade 2: (2)(A)-(B), (4)(A)-(D), (7)(A), (7)(C), (5)(A), (10)(C), (11)(A) Grade 3: (2)(A), (3)(D), (4)(A)-(K), (5)(B), (5)(D), (6)(C)-(D), (7)(B)-(C), (8)(B) Grade 4: (3)(A), (3)(E)-(F), (4)(A)-(F), (4)(H), (5)(D), (7)(E), (8)(B)-(C), (10)(B) Grade 5: (2)(A), (3)(B)-(L), (4)(B), (4)(E), (4)(G), (6)(B), (7), (10)(F), Grade 6: (3)(A)-(B), (3)(D)-(E), (3)(H), (5)(B), (7)(A), (8)(D), (9)(B), (13)(C), (14)(C) Grade 7: (3)(A)-(B), (4)(B)-(E), (5)(C), (6)(B)-(I), (9)(A)-(D), (11)(A)-(C), (13)(A)-(B), (13)(D)-(E) Geometry: (2)(A), (13)(A) Mathematical Models with Applications: (8)(A) Algebra II: (7)(A) Advanced Quantitative Reasoning: (2)(E) Precalculus: (5)(C), (5)(E) Statistics: (6)(C)-(D) Algebraic Reasoning: (2)(D), (5)(A)-(E)	Grade 6: (6)(B), (8)(C) Grade 8: (6)(A) Chemistry: (6)(C), (8)(B)-(E), (9)(A), (10)(C)-(D), (10)(H), (11)(C)-(D) Integrated Physics and Chemistry: (4)(A), (4)(D), Physics: (2)(J), (3)(E), (4)(A)-(D), (5)(B)-(C), (5)(F), (6)(A)-(D), (7)(B), (7)(E), (8)(C)-(D) Aquatic Science: (2)(I), (4)(B-C), (5)(A), (6)(B), (7)(A), (8)(A), (11)(A), (12(A) Astronomy: (7)(B), (8)(B), (9)(C), (11)(C) Earth and Space Science: (2)(H), (5)(B), (7)(B), (10)(D) Environmental Systems: (2)(J), (7)(B)	Accounting II: (1)(B), (1)(E), (3)(C)-(D), (3)(F), (3)(I), (4)(C)-(G), (4)(I), (5)(B), (5)(D)-(F), (5)(I), (5)(K)-(P), (6)(D)(i)-(iii), (6)(E)(iii), (6)(E)(v)-(vi), (6)(G)(iii)-(iv), (6)(H), (6)(K)(i)-(iii), (6)(K)(vi)-(vii); Applied Mathematics for Technical Professionals: (2)(A), (2)(D), (2)(F)-(H), (3)(B)-(H), (4)(A), (4)(E)-(F), (5)(A)-(B), (5)(D), (6)(B); Digital Electronics: (7)(A); Entrepreneurship: (8)(C); Forestry and Woodland Ecosystems: (4)(A); Advanced Marketing: (16)(A), (16)(C), (20)(A); Basic Collision Repair and Refinishing: (3)(C); Collision Repair: (2)(D), (5)(D), (10)(K)-(M); Paint and Refinishing: (3)(C); Engineering Mathematics: (3)(A)-(D), (4)(A)-(L), (5)(A)-(B), (6)(A), (6)(C)-(D), (6)(G), (6)(I)-(L), (6)(N), (7)(A)-(B), (7)(G)-(I), (8)(A), (8)(D), (8)(G)-(H), (8)(L)-(S), (9)(A), (9)(D)-(F), (10)(A)-(D), (10)(F)-(H), (10)(J), (10)(M)-(N), (11)(B), (11)(D), (11)(F); Financial Mathematics: (3)(C), (3)(F), (3)(H)-(I), (4)(A)-(C), (4)(F)-(I), (5)(C)-(D), (6)(B), (7)(A)-(B), (7)(D), (7)(F)-(G), (8)(A)-(D), (8)(F), (9)(A)-(B), (10)(A)-(C), (10)(F), (11)(A)-(D), (12), (14), (15)(A), (17)(C), (17)(G); Manufacturing Engineering Technology II: (8)(B); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(A)-(F), (5)(F), (6)(A)-(B), (7)(A)-(C), (8)(A)-(B), (9)(A)-(B), (10)(A)-(B), (11)(A)-(C), (12)(A)-(C), (12)(E); Mathematics for Medical Professionals: (3)(A), (3)(C), (4)(D)-(F), (5)(C), (6)(F)-(G), (7)(A)-(D) ; Robotics II: (7)(A), (7)(C)-(D), (7)(G)-(I), (8)(E), (8)(G), (9)(B); Statistics and Business Decision Making: (10)(A), (11)(B), (12)-(14), (15)(A), (16)(D), (16)(F), (18)-(19), (20)(B)-(C), (21); Principles of Technology: (8)(B), (9)(B)-(C), (9)(G), (10)(B)-(C), (12)(C); Robotic II: (7)(H)-(I); Engineering Science: (7)(D), (7)(F), (8)(B)-(D), (9)(G), (10)(A), (10)(D), (10)(G)-(J), (11)(B), (12)(D), (14)(C), (14)(E)-(F), (15)(A)-(H), (16)(A)-(D); Biotechnology I: (3)(F), (11)(C); Biotechnology II: (14)(C); Diversified Manufacturing II: (9)(A); Metal Fabrication and Machining II: (3)(C), (8)(A); Introduction to Welding: (5)(A), (5)(E)-(F); Welding I: (3)(B), (3)(G)-(I); Welding II: (3)(A); Small Engine Technology I: (5)(D), (6)(A)(C)-(E); Small Engine Technology II: (5)(C), (7)(A)(E)-(G); Automotive Basics: (3)(C); Automotive Technology I: Maintenance and Light Repair: (2)(C); Aircraft Airframe Technology: (5)(A), (5)(F); Aircraft Powerplant Technology: (5)(B), (7)(D);	Discrete Mathematics for Computer Science: (2)(D), (4)(L)-(N), (6)(B), (6)(H)-(K), (6)(M) Robotics Programming and Design: (5)(B), (7)(I), (7)(L)-(M), (7)(R)

B. Number sense and number concepts [~~operations~~]				
I.B.1. Use estimation to check for errors and reasonableness of solutions. [~~Perform computations with real and complex numbers.~~]	[~~Kindergarten: (2)(I), (3)(A)-(C)~~ ~~Grade 1: (3)(A)-(F), (4)(C), (5)(B), (5)(F)-(G)~~ ~~Grade 2: (2)(A)-(B), (4)(A)-(D), (7)(A), (7)(C), (5)(A), (10)(C), (11)(A)~~ ~~Grade 3: (2)(A), (3)(D), (4)(A)-(K), (5)(B), (5)(D), (6)(C)-(D), (7)(B)-(C), (8)(B)~~ ~~Grade 4: (3)(A), (3)(E)-(F), (4)(A)-(F), (4)(H), (5)(D), (7)(E), (8)(B)-(C), (10)(B)~~ ~~Grade 5: (2)(A), (3)(B)-(L), (4)(B), (4)(E), (4)(G), (6)(B), (7), (10)(F).~~ ~~Grade 6: (3)(A)-(B), (3)(D)-(E), (3)(H), (5)(B), (7)(A), (8)(D), (9)(B), (13)(C), (14)(C)~~ ~~Grade 7: (3)(A)-(B), (4)(B)-(E), (5)(C), (6)(B)-(I), (9)(A)-(D), (11)(A)-(C), (13)(A)-(B), (13)(D)-(E)~~ ~~Geometry: (2)(A), (13)(A)~~ ~~Mathematical Models with Applications: (8)(A)~~ ~~Algebra II: (7)(A)~~ ~~Advanced Quantitative Reasoning: (2)(E)~~ ~~Precalculus: (5)(C), (5)(E)~~ ~~Statistics: (6)(C)-(D)~~ ~~Algebraic Reasoning: (2)(D), (5)(A)-(E)~~] Kindergarten - Grade 12: (1)(B)-(C) Grade 2: (9)(E) Grade 3: (4)(B) Grade 4: (2)(D), (3)(F), (4)(G) Grade 5: (3)(A), (8)(A) Grade 8: (2)(B) Algebra I: (3)(G) Algebra II: (3)(D), (3)(G), (4)(G), (5)(E), (6)(J) Advanced Quantitative Reasoning: (2)(A), (2)(H) Statistics: (6)(H), (6)(J), (7)(C), (7)(E)-(F) Algebraic Reasoning: (7)(C)	[~~Grade 6: (6)(B), (8)(C)~~ ~~Grade 8: (5)(F), (6)(A)~~ ~~Aquatic Science: (2)(I)~~ ~~Chemistry: (2)(G), (6)(C)-(D), (8)(B)-(E), (9)(A)-(B), (10)(C)-(D), (10)(I), (11)(C)-(D)~~ ~~Earth and Space Science: (7)(B), (10)(D)~~ ~~Environmental Systems: (2)(J), (7)(B)~~ ~~Integrated Physics and Chemistry: (4)(A)-(B)~~ ~~Physics: (2)(L), (3)(F), (4)(D)-(E), (5)(B)-(C), (5)(F), (6)(A), (6)(C)-(D)~~]	[~~Accounting II: (1)(B), (1)(E), (3)(C)-(D), (3)(F), (3)(I), (4)(C)-(G), (4)(I), (5)(B), (5)(D)-(F), (5)(I), (5)(K)-(P), (6)(D)(i)-(iii), (6)(E)(iii), (6)(E)(v)-(vi), (6)(G)(iii)-(iv), (6)(H), (6)(K)(i)-(iii), (6)(K)(vi)-(vii); Applied Mathematics for Technical Professionals: (2)(A), (2)(D), (2)(F)-(H), (3)(B)-(H), (4)(A), (4)(E)-(F), (5)(A)-(B), (5)(D), (6)(B); Digital Electronics: (7)(A); Entrepreneurship: (8)(C); Forestry and Woodland Ecosystems: (4)(A); Advanced Marketing: (16)(A), (16)(C), (20)(A); Basic Collision Repair and Refinishing: (3)(C); Collision Repair: (2)(D), (5)(D), (10)(K)-(M); Paint and Refinishing: (3)(C); Engineering Mathematics: (3)(A)-(D), (4)(A)-(L), (5)(A)-(B), (6)(A), (6)(C)-(D), (6)(G), (6)(I)-(L), (6)(N), (7)(A)-(B), (7)(G)-(I), (8)(A), (8)(D), (8)(G)-(H), (8)(L)-(S), (9)(A), (9)(D)-(F), (10)(A)-(D), (10)(F)-(H), (10)(J), (10)(M)-(N), (11)(B), (11)(D), (11)(F); Financial Mathematics: (3)(C), (3)(F), (3)(H)-(I), (4)(A)-(C), (4)(F)-(I), (5)(C)-(D), (6)(B), (7)(A)-(B), (7)(D), (7)(F)-(G), (8)(A)-(D), (8)(F), (9)(A)-(B), (10)(A)-(C), (10)(F), (11)(A)-(D), (12), (14), (15)(A), (17)(C), (17)(G); Manufacturing Engineering Technology II: (8)(B); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(A)-(F), (5)(F), (6)(A)-(B), (7)(A)-(C), (8)(A)-(B), (9)(A)-(B), (10)(A)-(B), (11)(A)-(C), (12)(A)-(C), (12)(E); Mathematics for Medical Professionals: (3)(A), (3)(C), (4)(D)-(F), (5)(C), (6)(F)-(G), (7)(A)-(D) ; Robotics II: (7)(A), (7)(C)-(D), (7)(G)-(I), (8)(E), (8)(G), (9)(B); Statistics and Business Decision Making: (10)(A), (11)(B), (12)-(14), (15)(A), (16)(D), (16)(F), (18)-(19), (20)(B)-(C), (21); Principles of Technology: (8)(B), (9)(B)-(C), (9)(G), (10)(B)-(C), (12)(C); Robotic II: (7)(H)-(I); Engineering Science: (7)(D), (7)(F), (8)(B)-(D), (9)(G), (10)(A), (10)(D), (10)(G)-(J), (11)(B), (12)(D), (14)(C), (14)(E)-(F), (15)(A)-(H), (16)(A)-(D); Biotechnology I: (3)(F), (11)(C); Biotechnology II: (14)(C); Diversified Manufacturing II: (9)(A); Metal Fabrication and Machining II: (3)(C), (8)(A); Introduction to Welding: (5)(A), (5)(E)-(F); Welding I: (3)(B), (3)(G)-(I); Welding II: (3)(A); Small Engine Technology I: (5)(D), (6)(A)(C)-(E); Small Engine Technology II: (5)(C), (7)(A)(E)-(G); Automotive Basics: (3)(C); Automotive Technology I: Maintenance and Light Repair: (2)(C); Aircraft Airframe Technology: (5)(A), (5)(F); Aircraft Powerplant Technology: (5)(B), (7)(D);~~] Accounting II: (2)(B)-(C); Applied Mathematics for Technical Professionals: (1)(B)-(C), (2)(D), (5)(F); Digital Electronics: (2)(B)-(C); Engineering Mathematics: (2)(B)-(C), (6)(H), (11)(A), (11)(E)-(F); Financial Mathematics: (2)(B)-(C), (10)(B)-(C); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(B)-(C); Mathematics for Medical Professionals: (2)(B)-(C), (3)(E); Statistics and Business Decision Making: (2)(B)-(C); Practicum in Marketing: (6)(E); Principles of Technology: (3H); Engineering Design and Presentation I: (8)(B); Engineering Design and Presentation II: (8)(B); Engineering Design and Problem Solving: (3)(F), (5)(I), (11)(A)-(F); Engineering Science: (3)(F); Biotechnology I: (3)(F); Biotechnology II: (3)(F); Scientific Research and Design: (3)(F); Metal Fabrication and Machining II: (3)(C); Metal Fabrication and Machining II: (8)(A); Introduction to Welding: (5)(A); Welding I: (3)(B); Welding II: (3)(A), (3)(G); Dollars and Sense: (3)(C), (3)(L)	[~~Discrete Mathematics for Computer Science: (2)(D), (4)(L)-(N), (6)(B), (6)(H)-(K), (6)(M)~~ ~~Robotics Programming and Design: (5)(B), (7)(I), (7)(L)-(M), (7)(R)~~] Robotics Programming and Design: (1)(B)-(C)
I.B.2. Interpret the relationships between the different representations of numbers.	Kindergarten: (2)(A), (2)(C)-(D), (2)(I) Grade 1: (2)(A)-(C) Grade 2: (2)(A), (2)(B), (2)(E)-(F), (3)(A), (3)(C)-(D), Grade 3: (2)(A)-(B), (3)(A)-(G) Grade 4: (2)(A)-(B), (2)(E), (2)(G)-(H), (3)(A)-(C), (3)(G) Grade 5: (2)(A), (4)(F) Grade 6: (7)(A) Grade 8:(2)(C) Algebra: (11)(A)	Grades 1&2: (4)(A) Grade 3-5: (4) Astronomy: (6)(A-E) Biology: (12)(C) Earth and Space Systems: (2)(H)	Applied Mathematics for Technical Professionals: (2)E)-(F), (2)(D), (5)(F); Mathematics for Medical Professionals: (3)(D), 3(F)	
C. Systems of measurement [~~Number sense and number concepts~~]				
I.C.1. Select or use the appropriate type of method, unit, and tool for the attribute being measured. [~~Use estimation to check for errors and reasonableness of solutions.~~]	[~~Kindergarten - Grade 12: (1)(B)-(C); Grade 2: (9)(E); Grade 3: (4)(B); Grade 4: (2)(D), (3)(F), (4)(G); Grade 5: (3)(A), (8)(A); Grade 8: (2)(B) Algebra I: (3)(G); Algebra II: (3)(D), (3)(G), (4)(G), (5)(E), (6)(J); Advanced Quantitative Reasoning: (2)(A), (2)(H); Statistics: (6)(H), (6)(J), (7)(C), (7)(E)-(F); Algebraic Reasoning: (7)(C)~~] Kindergarten: (7)(A) Grade 1: (7)(A)-(E) Grade 2: (9)(A)-(B), (9)(D), (9)(F)-(G) Grade 3: (7)(E) Grade 4: (7)(B)-(C), (8)(A) Grade 5: (6)(A)-(B) Grade 8: (10)(D) Geometry: (10)(B), (12)(D) Advanced Quantitative Reasoning: (2)(A)	Kindergarten – Grade 8: (4)(A) Grade 6 -Grade 8: (4)(B) Astronomy: (2)(E) Biology: (2)(E-F) Chemistry: (1)(A), (2)(E) Earth and Space Systems: (2)(E-F) Environmental Systems: (2)(E-F) Integrated Physics and Chemistry: (1)(A), (2)(B) Physics: (2)(D-F)	[~~Accounting II: (2)(B)-(C); Applied Mathematics for Technical Professionals: (1)(B)-(C), (2)(D), (5)(F); Digital Electronics: (2)(B)-(C); Engineering Mathematics: (2)(B)-(C), (6)(H), (11)(A), (11)(E)-(F); Financial Mathematics: (2)(B)-(C), (10)(B)-(C); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(B)-(C); Mathematics for Medical Professionals: (2)(B)-(C), (3)(E); Statistics and Business Decision Making: (2)(B)-(C); Practicum in Marketing: (6)(E); Principles of Technology: (3H); Engineering Design and Presentation I: (8)(B); Engineering Design and Presentation II: (8)(B); Engineering Design and Problem Solving: (3)(F), (5)(I), (11)(A)-(F); Engineering Science: (3)(F); Biotechnology I: (3)(F); Biotechnology II: (3)(F); Scientific Research and Design: (3)(F); Metal Fabrication and Machining II: (3)(C); Metal Fabrication and Machining II: (8)(A); Introduction to Welding: (5)(A); Welding I: (3)(B); Welding II: (3)(A), (3)(G); Dollars and Sense: (3)(C), (3)(L)~~] Applied Mathematics for Technical Professionals: (4)(A)-(B) , (4)(D)-(F); Engineering Mathematics: (3)(A)-(D), (4)(A)-(M), (5)(A)-(B), (6)(A), (6)(C)-(H), (6)(J)-(O), (7)(F)-(G), (8)(A)-(S), (9)(A)-(H), (10)(B)-(N), (11)(A)-(F); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(B), (4)(E)-(F), (5)(F), (7)(A), (7)(C), (8)(A)-(B), (9)(B), (10)(A)-(B), (11)(A)-(C), (12)(A)-(C), (12)(E); Mathematics for Medical Professionals: (5)(A)-(F); Robotics II: (7)(F)-(K), (8)(G); Forestry and Woodland Ecosystems: (4)(A)(D); (6)(D); Principles of Technology: (3)(H), (5)(F); AC/DC Electronics: (6)(F)-(G); Engineering Design and Presentation II: (5)(F); Engineering Design and Problem Solving: (5)(J); Principles of Manufacturing: (3)(E); Diversified Manufacturing I: (10)(E); Diversified Manufacturing II: (11)(E); Precision Metal Manufacturing I: (3)(B), (3)(D)-(E); Small Engine Technology I: (9)(G)-(H); Small Engine Technology II: (10)(H)-(I)	~~Robotics Programming and Design: (1)(B)-(C)~~ Robotics Programming and Design: (5)(A)-(B), (7)(G)-(I), (7)(L)-(P)

I.C.2. Convert units within and between systems of measurement.	Grade 4: (8)(B) Grade 5: (7) Grade 6: (4)(H) Grade 7: (4)(E) Geometry: (12)(D)	Astronomy: (6)(E) Chemistry: (2)(G) Environmental Systems: (2)(F) Physics: (3)(E)	Applied Mathematics for Technical Professionals: (4)(A), (4)(E) Engineering Mathematics: (3)(A); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(B), (5)(F), (7)(A), (12)(A); Mathematics for Medical Professionals: (5)(C) ; HVAC Tech I: (3)(A), (3)(C); Precision Metal Manufacturing I: (3)(B); Introduction to Welding: (5)(G); Welding I: (3)(J)	
II. Algebraic Reasoning				
A. Identifying expressions [~~Expressions~~] and equations				
II.A.1. Explain the difference [~~and differentiate~~] between expressions and equations. [~~using words such as "solve," "evaluate," and "simplify."~~]	Grade 1: (5)(E) Grade 5: (4)(F) Grade 6: (7)(B), (10)(A)-(B) Grade 8: (5)(E), (7)(A)-(D), (8)(C), (12)(A)-(B), (12)(D) Algebra I: (5)(A)-(C), (8)(A), (10)(A)-(D), (11)(A)-(B), (12)(B), (12)(E) Geometry: (9)(A)-(B), (11)(A)-(D), (12)(B)-(C) Algebra II: (3)(B)-(C), (3)(F), (4)(F), (4)(H), (5)(D), (6)(B), (6)(E)-(F), (6)(I), (6)(L), (7)(A)-(H) Precalculus: (5)(A), (5)(C)-(E), (5)(G)-(N) Advanced Quantitative Reasoning: (2)(C)-(E) Algebraic Reasoning: (4)(A)-(C), (5)(A)-(E), (6)(B)-(C)			
B. Manipulating expressions				
II.B.1. Recognize and use algebraic [(~~field~~)] properties, concepts, [~~procedures~~], and algorithms to combine, transform, and evaluate expressions (e.g., polynomials, radicals, rational expressions).	Grade 5: (4)(E)-(F) Grade 6: (7)(A), (7)(C)-(D) Algebra I: (3)(B), (3)(E), (5)(A), (6)(B)-(C), (7)(B)-(C), (10)(A)-(F), (11)(A)-(B), (12)(B), (12)(E) Algebra II: (2)(B)-(D), (4)(D), (5)(C), (7)(A)-(G) Precalculus: (5)(A), (5)(C), (5)(E)-(G), (5)(M) Advanced Quantitative Reasoning: (2)(F) Algebraic Reasoning: (3)(D)-(F), (4)(A)-(C), (5)(A)-(E)	Physics: (3)(~~FE~~)	Digital Electronics: (7)(M) Mathematical Applications in Agriculture, Food, and Natural Resources: (5)(F), (6)(A)-(B), (7)(A)-(C), (8)(A)-(B), (9)(A)-(B), (10)(A)-(B), (11)(A)-(C), (12)(A)-(C), (12)(E) Mathematics for Medical Professionals: (4)(E)	
C. Solving equations, inequalities, and systems of equations and inequalities				
II.C.1. Describe and interpret solution sets of equalities and inequalities. [~~Recognize and use algebraic (field) properties, concepts, procedures, and algorithms to solve equations, inequalities, and systems of linear equations.~~]	[~~Grade 6: (5)(A), (10)(A); Grade 8: (8)(C); Algebra I: (5)(A)-(C), (8)(A), (12)(E); Algebra II: (3)(B)-(D), (3)(F), (4)(F)-(H), (5)(D)-(E), (6)(B), (6)(E)-(F), (6)(I), (7)(A)-(H); Precalculus: (5)(H)-(N); Advanced Quantitative Reasoning: (2)(C)-(E); Algebraic Reasoning: (5)(D)-(E), (6)(B)-(C)~~] Grade 6: (9)(B), (10)(A) Grade 7:(10)(B), (11)(B) Grade 8: 8(9) Algebra: (3)(F), (3)(G), (3)(H) Algebra 2: (3)(D), (3)(G), (4)(G)	[~~Chemistry (8)(D)~~] [~~Physics: (2)(L), (3)(F)~~]	[~~Applied Mathematics for Technical Professionals: (2)(C)-(D) Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(A)-(F), (5)(F), (6)(A)-(B), (7)(A)-(C), (8)(A)-(B), (8)(A)-(B), (10)(A)-(B), (11)(A)-(C), (12)(A)-(C), (12)(E); Mathematics for Medical Professionals: (4)(D)-(E) Construction Management II: (18)(B); Principles of Technology: (3)(J), (3)(L), (4)(E), (5)(H), (5)(K), (8)(A); Biotechnology II: (3)(I), (4)(G), (10)(A); Scientific Research and Design: (3)(I), (4)(G), (10)(A)~~] Applied Mathematics for Technical Professionals: (2)(C)-(D) Mathematical Applications in Agriculture, Food, and Natural Resources: (5)(F), (6)(A)-(B), (7)(A)-(C), (8)(A)-(B), (8)(A)-(B), (10)(A)-(B), (11)(A)-(C), (12)(A)-(C), (12)(E) Mathematics for Medical Professionals: (4)(D)-(E)	
II.C.2. Explain the difference between the solution set of an equation and the solution set of an inequality.	Grade 6: (10)(B) Grade 7: (11)(A) Algebra I: (3)(F)-(H), (5)(A)-(C), (8)(A) Algebra II: (3)(B)-(C), (3)(F)-(G), (4)(F), (4)(H), (6)(E)-(F), (6)(I) Precalculus: (5)(J)-(L)			
II.C.3. Recognize and use algebraic properties, concepts, and algorithms to solve equations, inequalities, and systems of linear equations and inequalities.	Grade 6: (5)(A), (10)(A) Grade 8: (8)(C) Algebra I: (5)(A)-(C), (8)(A), (12)(E) Algebra II: (3)(B)-(D), (3)(F), (4)(F)-(H), (5)(D)-(E), (6)(B), (6)(E)-(F), (6)(I), (7)(A)-(H) Precalculus: (5)(H)-(N) Advanced Quantitative Reasoning: (2)(C)-(E) Algebraic Reasoning: (5)(D)-(E), (6)(B)-(C)	Chemistry (8)(E) Physics: (2)(J), (3)(E)	Applied Mathematics for Technical Professionals: (2)(C)-(D); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(A)-(F), (5)(F), (6)(A)-(B), (7)(A)-(C), (8)(A)-(B), (8)(A)-(B), (10)(A)-(B), (11)(A)-(C), (12)(A)-(C), (12)(E); Mathematics for Medical Professionals: (4)(D)-(E); Construction Management II: (18)(B); Principles of Technology: (3)(J), (3)(L), (4)(E), (5)(H), (5)(K), (8)(A); Biotechnology II: (3)(I), (4)(G), (10)(A); Scientific Research and Design: (3)(I), (4)(G), (10)(A)	

D. Representing relationships [~~Representations~~]				
II.D.1. Interpret multiple representations of equations, inequalities, and relationships.	Kindergarten - Grade 12: (1)(D) Grade 4: (5)(B) Grade 5: (4)(B)-(D) Grade 6: (4)(A), (8)(B)-(C), (9)(A) Grade 7: (4)(A)-(C), (7) Grade 8: (5)(F), (5)(H), (6)(A)-(C), (8)(B) Algebra I: (2)(B)-(I), (3)(A)-(C), (7)(A)-(B) Algebra II: (2)(A), (2)(C), (4)(B) Precalculus: (2)(H)-(I), (4)(A)-(C), (4)(J) Statistics: (7)(A)-(B) Algebraic Reasoning: (2)(A)-(D), (3)(A)-(F), (6)(B)-(C), (7)(D)-(E)	Grade 6: (2)(D), (8)(D) Grade 7: (2)(D) Grade 8: (2)(D), (6)(A), (6)(C) Chemistry: (2)(H), (11)(C) Physics: (2)(H-J), (4)(B-C)	Accounting II: (2)(D); Applied Mathematics for Technical Professionals: (1)(D), (6)(A), (6)(D), (7)(D); Digital Electronics: (2)(D); Engineering Mathematics: (2)(D), (3)(B), (4)(C), (4)(G), (11)(C)-(D); Financial Mathematics: (2)(D); Manufacturing Engineering Technology II: (2)(D); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(D), (4)(F), (5)(F), (6)(B), (7)(B), (8)(A), (9)(A), (10)(A), (11)(B), (12)(B); Mathematics for Medical Professionals: (2)(D), (4)(A)-(C); Robotics II: (2)(D); Statistics and Business Decision Making: (2)(D); Entrepreneurship (8)(D); Principles of Technology: (3)(J), (3)(L), (4)(E), (5)(H), (5)(K), (8)(A); Biotechnology II: (3)(I), (4)(G), (10)(A); Scientific Research and Design: (3)(I), (4)(G), (10)(A)	Robotics Programming and Design: (1)(D)
II.D.2. Convert [~~Translate~~] among multiple representations of equations, inequalities, and relationships.	Kindergarten - Grade 12: (1)(D) Grade 6: (6)(B)-(C) Grade 7: (4)(A), (7) Grade 8: (5)(A)-(B), (5)(I), (8)(A)-(C), (9) Algebra I: (2)(B)-(I), (3)(A)-(C), (6)(B), (12)(C)-(D) Algebra II: (2)(A)-(B), (3)(A), (3)(E), (5)(B), (6)(D), (6)(H), (6)(L), (8)(B), Precalculus: (3)(A)-(B), (3)(E), (3)(H)-(I), (4)(I), (5)(D), (5)(F)-(G) Algebraic Reasoning: (2)(C)-(D)	Physics: (2)(J) [~~(2)(L)~~] , (3)(E) [~~(3)(F)~~]	Accounting II: (2)(D); Applied Mathematics for Technical Professionals: (1)(D), (6)(A); Digital Electronics: (2)(D); Engineering Mathematics: (2)(D); Financial Mathematics: (2)(D); Manufacturing Engineering Technology II: (2)(D); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(D); Mathematics for Medical Professionals: (2)(D); Robotics II: (2)(D); Statistics and Business Decision Making: Principles of Technology: (3)(J), (3)(L), (4)(E), (5)(H), (5)(K), (8)(A), Biotechnology II: (3)(I), (4)(G), (10)(A); Scientific Research and Design: (3)(I), (4)(G), (10)(A)	Robotics Programming and Design: (1)(D)
III. Geometric and Spatial Reasoning				
A. Figures and their properties				
III.A.1. Recognize characteristics and dimensional changes of two- and three- dimensional figures. [~~Identify and represent the features of plane and space figures~~.]	Kindergarten: (6)(A)-(F) Grade 1: (6)(A)-(H) Grade 2: (8)(A)-(E) Grade 3: (6)(A)-(B) Grade 4: (6)(A)-(D) Grade 5: (5) Grade 6: (8)(D) Geometry: (10)(A), (12)(E) Precalculus: (3)(F)-(I)	Integrated Physics and Chemistry: (6)(A)-(B) Chemistry (7)(E) Physics: (3)(E) [~~(3)(F)~~]	Applied Mathematics for Technical Professionals: (3)(A), (3)(I)-(K), (7)(A)-(C); Robotics II: (7)(B), (7)(I)-(K); Precision Metal Manufacturing I: (3)(D); Precision Metal Manufacturing II: (6)(B), (9)(K), (10)(F), (10)(K); Precision Metal Manufacturing II Lab: (5)(K); Welding I: (3)(L), (5)(B); Small Engine Technology I: (6)(C), (7)(B); Small Engine Technology II: (7)(E), (8)(B);	Robotics Programming and Design: (4)(B), (4)(D), (5)(A)-(B), (7)(G)-(I), (7)(L), (7)(N)-(O)
III.A.2. Form and validate [~~Make, test, and use~~] conjectures about one-, two-, and three-dimensional figures and their properties.	Kindergarten: (6)(E), (7)(A)-(B) Grade 6: (8)(A)-(B) Grade 7: (5)(A)-(B), (8)(A)-(D) [~~(C)~~] Grade 8: (6)(B), (8)(D) Geometry: (4)(B)-(C), (5)(A), (5)(D), (6)(A)-(B), (6)(D)-(E), (7)(A)-(B), (8)(A)-(B), (9)(A)-(B), (10)(B), (12)(A)-(E) Precalculus: (4)(A)-(C), (4)(J) Mathematical Models with Applications: (6)(A), (7)(B), (7)(D)	Grade 8: (8)(A)-(B) Astronomy: (8)(A) Chemistry: (7)(E) Earth and Space Science: (5)(C), (6)(C) [~~(14)(A)~~] Integrated Physics and Chemistry: (6)(B) Physics: (4)(B)-(D) [~~(F)~~]	Engineering Mathematics: (3)(C), (4)(D), (4)(G), (6)(A), (6)(K)-(O), (8)(D); Mathematical Applications in Agriculture, Food, and Natural Resources: (7)(C), (8)(A)-(B), (9)(B), (10)(A)-(B), (11)(A)-(C), (12)(C), (12)(E); Robotics II: (7)(B), (7)(I)-(K), (9)(A)-(C); Principles of Technology: (8)(A); Precision Metal Manufacturing II: (12)(A)-(C); Precision Metal Manufacturing II Lab: (7)(A)-(C)	Robotics Programming and Design: (4)(B), (4)(D), (5)(A)-(B), (7)(G)-(I), (7)(J), (7)(L), (7)(N)-(O), (7)(Q), (7)(S)
III.A.3. Recognize and apply right triangle relationships including basic trigonometry.	Grade 8: (6)(C), (7)(C)-(D) Geometry: (7)(A)-(B), (9)(A)-(B) Precalculus: (2)(O)-(P), (4)(E)-(H) Mathematical Models with Applications: (6)(C)-(D), (7)(B), (7)(D) Advanced Quantitative Reasoning: (2)(D)	Physics: (4)(D)	Applied Mathematics for Technical Professionals: (3)(C)-(D), (3)(F)-(G); Engineering Mathematics: (4)(C), (5)(A)-(B); Mathematical Applications in Agriculture, Food, and Natural Resources: (7)(C), (8)(B) ;; Masonry Technology II: (2)(D); Precision Metal Manufacturing II: (11)(A)-(C); Precision Metal Manufacturing II Lab: (6)(A)-(C); Welding I: (3)(K); Welding II: (3)(F)	
B. Transformations and symmetry				
III.B.1. Identify [~~and apply~~] transformations and symmetries of [~~te~~] figures.	Grade 4: (6)(B) Grade 8: (3)(A)-(D) [~~(C)~~] , (10)(A)-(D) Geometry: (3)(A)-(D) [~~(C)~~] , (6)(C), (7)(A)-(B), (8)(A)-(B), (9)(A)-(B), (10)(B) Mathematical Models with Applications: (6)(A)-(B), (7)(B), (7)(D) Precalculus: (2)(D)	[~~Astronomy: (8)(A)~~] [~~Earth and Space Science: (14)(A)~~] [~~Physics: (7)(E)~~]	Robotics II: (7)(H)-(K)	Robotics Programming and Design: (4)(B), (5)(A)-(B), (7)(L), (7)(O)-(P)
III.B.2. Use transformations to investigate congruence, similarity, and symmetries of figures. [~~Identify the symmetries of a plane figure~~.]	[~~Grade 4: (6)(B)~~] [~~Geometry: (3)(D)~~] [~~Precalculus: (2)(D)~~] Grade 7: (5)(A) Grade 8: (3)(A)-(C), (4)(A), (10)(A)-(D) Geometry: (3)(A)-(C), (6)(C), (7)(A)-(B), (8)(A)-(B), (9)(A)-(B), (10)(B) Mathematical Models with Applications: (6)(A)-(B), (7)(B), (7)(D) Advanced Quantitative Reasoning: (2)(D), (2)(F)			

[III.B.3. Use congruence transformations and dilations to investigate congruence, similarity, and symmetries of plane figures.]	[Grade 8: (3)(A)-(C), (4)(A), (10)(A)-(D)] [Geometry: (3)(A)-(C), (6)(C), (7)(A)-(B), (8)(A)-(B), (9)(A)-(B), (10)(B)] [Mathematical Models with Applications: (6)(A)-(B), (7)(B), (7)(D] [Advanced Quantitative Reasoning: (2)(D), (2)(F)]			
C. Connections between geometry and other mathematical content strands				
III.C.1. Make connections between geometry and algebraic equations. [algebra.]	Grade 4: (5)(C), (7)(E) Grade 5: (4)(A), (4)(G), (6)(A)-(B), (8) (A)-(C) Grade 6: (8)(A), (8)(C), (10)(A) Grade 7: (8)(A)-(C), (11)(C) Grade 8: (3)(B)-(C), (4)(A), (8)(D), (10)(A)-(D) Geometry: (2)(A)-(C), (3)(A)-(D), (7)(A)-(B), (8)(B), (10)(B), (12)(A)-(E) Precalculus: (3)(H)-(I), (4)(A)-(C), (4)(J) Mathematical Models with Applications: (6)(B)-(D), (7)(A)-(D) Advanced Quantitative Reasoning: (2)(C)-(D), (2)(F)	Physics: (3)(E) [(3)(F)] , 4(B)-(D) [(F).]	Applied Mathematics for Technical Professionals: (3)(A)-(H), (4)(D), (4)(F); Engineering Mathematics: (3)(A)-(D), (4)(A)-(M), (5)(A)-(B), (6)(A), (6)(C)-(H), (6)(J)-(O), (8)(A)-(S), (9)(A)-(H), (10)(B)-(N), (11)(A)-(F); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(E)-(F), (7)(A), (7)(C), (8)(A)-(B), (9)(B), (10)(A)-(B), (11)(A)-(C), (12)(A), (12)(C), (12)(E); Mathematics for Medical Professionals: (7)(A)-(D); Robotics II: (7)(A)-(E), (7)(G)-(K), (11)(D), (12)(D)-(E); Principles of Technology: (3)(J), (3)(L), (4)(E), (5)(H), (5)(K), (8)(A); Biotechnology II: (3)(I), (4)(G), (10)(A); Scientific Research and Design: (3)(I), (4)(G), (10)(A)	Robotics Programming and Design: (4)(B), (5)(A)-(B), (7)(B), (7)(L), (7)(O)-(P)
III.C.2. Make connections between geometry, statistics, and probability.	Grade 8: (11)(A) Algebra I: (4)(C), (8)(B) Algebra II: (8)(A)-(C) Geometry: (13)(B)		Applied Mathematics for Technical Professionals: (6)(C); Mathematical Applications in Agriculture, Food, and Natural Resources: (8)(C), (10)(C), (11)(D), (12)(D); Mathematics for Medical Professionals: (4)(A); Statistics and Business Decision Making: (10)(C), (12)-(13), (16)(G)-(H); Engineering Design and Problem Solving: (3)(G); Engineering Science: (3)(G); Biotechnology I: (3)(H), (13)(B); Biotechnology II: (3)(G), (8)(G), (10)(B), (13)(B); Scientific Research and Design: (3)(G), (8)(G), (10)(B)	
[III.C.3. Make connections between geometry and measurement.	[Grade 4: (7)(E), (8)(C)] [Grade 5: (6)(A)-(B)] [Grade 6: (8)(B)] [Grade 7: (8)(A)-(C)] [Grade 8: (7)(B)-(D), (8)(D), (10)(D)] [Geometry: (7)(B), (8)(A)-(B), (9)(A)-(B), (10)(B), (12)(B)-(C)] [Advanced Quantitative Reasoning: (2)(A), (2)(D)]		[Applied Mathematics for Technical Professionals: (4)(A)-(F); Engineering Mathematics: (3)(A)-(D), (4)(A)-(M), (5)(A)-(B), (6)(A), (6)(C)-(H), (6)(J)-(O), (7)(G)-(H), (8)(A)-(S), (9)(A)-(H), (10)(A)-(N), (11)(A)-(F); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(B), (4)(E), (7)(A)-(C), (8)(A)-(B), (9)(B), (10)(A)-(B), (11)(A)-(C), (12)(A), (12)(C), (12)(E); Mathematics for Medical Professionals: (7)(A)-(D); Robotics II: (7)(A)-(E), (7)(G)-(K), (9)(B)-(C), (11)(D), (12)(D)-(F); HVAC Technology I: (3)(B); Principles of Technology: (3)(J), (3)(L), (4)(E), (5)(H), (5)(K), (8)(A); Biotechnology II: (3)(I), (4)(G), (10)(A); Scientific Research and Design: (3)(I), (4)(G), (10)(A); Small Engine Technology I: (6)(C); Small Engine Technology II: (7)(E)]	[Robotics Programming and Design: (4)(B), (5)(A)-(B), (7)(B), (7)(J), (7)(L), (7)(O)-(P), (7)(S)]
D. Measurements involving geometry and algebra [Logic and reasoning in geometry]				
III.D.1. Find the perimeter and area of two-dimensional figures. [Make and validate geometric conjectures.]	[Kindergarten: (6)(E); Grade 6: (8)(A); Grade 8: (6)(B), (8)(D); Geometry: (4)(B)-(C), (5)(A), (5)(D), (6)(A)-(B), (6)(D)-(E), (7)(A)-(B), (8)(A)-(B), (9)(A)-(B), (12)(A)-(D); Mathematical Models with Applications: (6)(A)] Grade 2: (9)(F) Grade 3: (6)(C)-(E), (7)(B) Grade 4: (5)(C)-(D) Grade 5: (4)(H) Grade 6: (8)(D) Grade 7: (9)(B)-(C) Grade 8: (10)(D) Geometry: (10)(B), (11)(A)-(B), (12)(B)-(C) Precalculus: (4)(A)-(C)	[Astronomy: (8)(A)] [Earth and Space Science: (14)(A)]	Applied Mathematics for Technical Professionals: (3)(B), (3)(D)-(E), (3)(H) Engineering Mathematics: (6)(A), (10)(D), (10)(G), (10)(J), (10)(M)-(N) Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(B), (4)(E), (5)(F), (7)(C), (9)(B), (10)(A), (11)(A)-(C), (12)(A), (12)(C), (12)(E); Agricultural Mechanics and Metal Technology: (11)(E); Engineering Science: (11)(B); Diversified Manufacturing II: (2)(C); Metal Fabrication and Machining I: (2)(C), (7)(A); Metal Fabrication and Machining II: (3)(E), (8)(B); Precision Metal Manufacturing I: (3)(B), (3)(E); Welding II: (3)(D)	
III.D.2. Determine the surface area and volume of three-dimensional figures. [Understand that Euclidean geometry is an axiomatic system.]	[Grade 4: (6)(A); Grade 6: (8)(A); Geometry: (4)(A), (4)(D), (5)(A)-(D), (6)(A)-(B), (6)(D)-(E), (7)(A), (12)(A)] Grade 5: (4)(H), (6)(A)-(B) Grade 7: (9)(A), (9)(D) Grade 8: (6)(A)-(B), (7)(A)-(B), (10)(D) Geometry: (10)(B), (11)(C)-(D) Mathematical Models with Applications: (6)(B), (7)(D)		Applied Mathematics for Technical Professionals: (3)(B), (3)(E), (3)(H); Engineering Mathematics: (6)(K)-(O), (8)(C)-(D), (8)(G); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(B), (4)(E), (5)(F), (7)(C), (8)(A), (9)(B), (10)(B), (11)(A)-(C), (12)(C), (12)(E); Mathematics for Medical Professionals: (7)(A)-(B); Agricultural Mechanics and Metal Technology: (11)(E); Engineering Science: (11)(B); Diversified Manufacturing I: (2)(C); Diversified Manufacturing II: (2)(C); Manufacturing Engineering Technology I: (8)(B); Metal Fabrication and Machining I: (2)(C), (7)(A); Metal Fabrication and Machining II: (3)(E), (8)(B); Precision Metal Manufacturing I: (3)(B), (3)(E); Welding II: (3)(D); Small Engine Technology I: (6)(C); Small Engine Technology II: (7)(D)-(E)	

III.D.3. Determine indirect measurements of geometric figures using a variety of methods.	Grade 4: (7)(E), (8)(C) Grade 5: (6)(A)-(B) Grade 6: (5)(A), (8)(A), (8)(B) Grade 7: (5)(A), (5)(C), (8)(A)-(C) Grade 8: (3)(A), (6)(C), (7)(B)-(D), (8)(D), (10)(D) Geometry: (5)(A), (5)(D), (7)(B), (8)(A)-(B), (9)(A)-(B), (10)(B), (12)(B)-(C) Precalculus: (4)(E)-(I), (4)(K) Mathematical Models with Applications: (6)(C)-(D), (7)(A) Advanced Quantitative Reasoning: (2)(A), (2)(D)	Astronomy: (9)(B)	Applied Mathematics for Technical Professionals: (3)(G)-(H), (4)(A)-(F); Engineering Mathematics: (3)(A)-(D), (4)(A)-(M), (5)(A)-(B), (6)(A), (6)(C)-(H), (6)(J)-(O), (7)(G)-(H), (8)(A)-(S), (9)(A)-(H), (10)(A)-(N), (11)(A)-(F); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(B), (4)(E), (7)(A)-(C), (8)(A)-(B), (9)(B), (10)(A)-(B), (11)(A)-(C), (12)(A), (12)(C), (12)(E); Mathematics for Medical Professionals: (7)(A)-(D); Robotics II: (7)(A)-(E), (7)(G)-(K), (9)(B)-(C), (11)(D), (12)(D)-(F); HVAC Technology I: (3)(B); Principles of Technology: (3)(J), (3)(L), (4)(E), (5)(H), (5)(K), (8)(A); Biotechnology II: (3)(I), (4)(G), (10)(A); Scientific Research and Design: (3)(I), (4)(G), (10)(A); Small Engine Technology I: (6)(C); Small Engine Technology II: (7)(E); Masonry Technology II: (2)(D); Diversified Manufacturing I: (2)(C)	Robotics Programming and Design: (4)(B), (5)(A)-(B), (7)(B), (7)(J), (7)(L), (7)(O)-(P), (7)(S)
[~~IV. Measurement Reasoning~~]				
[~~A. Measurement involving physical and natural attributes~~]				
[~~IV.A.1. Select or use the appropriate type of unit for the attribute being measured.~~]	[~~Kindergarten: (7)(A)~~] [~~Grade 1: (7)(A)-(E)~~] [~~Grade 2: (9)(A)-(B), (9)(D), (9)(F)-(G)~~] [~~Grade 3: (7)(E)~~] [~~Grade 4: (7)(B)-(C), (8)(A)~~] [~~Grade 5: (6)(A)-(B)~~] [~~Grade 8: (10)(D)~~] [~~Geometry: (10)(B), (12)(D)~~] [~~Advanced Quantitative Reasoning: (2)(A)~~]	[~~Integrated Physics and Chemistry: (2)(C)~~]	[~~Applied Mathematics for Technical Professionals: (4)(A)-(B) , (4)(D)-(F); Engineering Mathematics: (3)(A)-(D), (4)(A)-(M), (5)(A)-(B), (6)(A), (6)(C)-(H), (6)(J)-(O), (7)(F)-(G), (8)(A)-(S), (9)(A)-(H), (10)(B)-(N), (11)(A)-(F); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(B), (4)(E)-(F), (5)(F), (7)(A), (7)(C), (8)(A)-(B), (9)(B), (10)(A)-(B), (11)(A)-(C), (12)(A)-(C), (12)(E); Mathematics for Medical Professionals: (5)(A)-(F); Robotics II: (7)(F)-(K), (8)(G); Forestry and Woodland Ecosystems: (4)(A)(D); (6)(D); Principles of Technology: (3)(H), (5)(F); AC/DC Electronics: (6)(F)-(G); Engineering Design and Presentation II: (5)(F); Engineering Design and Problem Solving: (5)(J); Principles of Manufacturing: (3)(E); Diversified Manufacturing I: (10)(E); Diversified Manufacturing II: (11)(E); Precision Metal Manufacturing I: (3)(B), (3)(D)-(E); Small Engine Technology I: (9)(G)-(H); Small Engine Technology II: (10)(H)-(I);~~]	[~~Robotics Programming and Design: (5)(A)-(B), (7)(G)-(I), (7)(L)-(P)~~]
[~~B. Systems of measurement~~]				
[~~IV.B.1. Convert from one measurement system to another.~~]	[~~Grade 7: (4)(E)~~] [~~Geometry: (12)(D)~~]		[~~Applied Mathematics for Technical Professionals: (4)(A), (4)(E) Engineering Mathematics: (3)(A); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(B), (5)(F), (7)(A), (12)(A); Mathematics for Medical Professionals: (5)(C) ; HVAC Tech I: (3)(A), (3)(C); Precision Metal Manufacturing I: (3)(B); Introduction to Welding: (5)(G); Welding I: (3)(J);~~]	
[~~IV.B.2. Convert within a single measurement system.~~]	[~~Grade 4: (8)(B)~~] [~~Grade 5: (7)~~] [~~Grade 6: (4)(H)~~]	[~~Grade 8: (8)(D)~~] [~~Astronomy: (6)(E)~~] [~~Chemistry: (2)(G)~~] [~~Environmental Systems: (2)(F)~~]	[~~Applied Mathematics for Technical Professionals: (4)(A), (4)(E); Engineering Mathematics: (8)(H); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(B), (4)(D), (5)(F), (7)(A), (12)(A); Mathematics for Medical Professionals: (5)(C) ; Precision Metal Manufacturing I: (3)(B);~~]	
[~~C. Measurement involving geometry and algebra~~]				
[~~IV.C.1. Find the perimeter and area of two-dimensional figures.~~]	~~Grade 2: (9)(F)~~] ~~Grade 3: (6)(C)-(E), (7)(B)~~] ~~Grade 4: (5)(C)-(D)~~] ~~Grade 5: (4)(H)~~] ~~Grade 6: (8)(D)~~] ~~Grade 7: (9)(B)-(C)~~] ~~Grade 8: (10)(D)~~] ~~Geometry: (10)(B), (11)(A)-(B), (12)(B)-(C)~~] ~~Precalculus: (4)(A)-(C)~~]		[~~Applied Mathematics for Technical Professionals: (3)(B), (3)(D)-(E), (3)(H); Engineering Mathematics: (6)(A), (10)(D), (10)(G), (10)(J), (10)(M)-(N); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(B), (4)(E), (5)(F), (7)(C), (9)(B), (10)(A), (11)(A)-(C), (12)(A), (12)(C), (12)(E); Agricultural Mechanics and Metal Technology: (11)(E); Engineering Science: (11)(B); Diversified Manufacturing II: (2)(C); Metal Fabrication and Machining I: (2)(C), (7)(A); Metal Fabrication and Machining II: (3)(E), (8)(B); Precision Metal Manufacturing I: (3)(B), (3)(E); Welding II: (3)(D)~~]	
[~~IV.C.2. Determine the surface area and volume of three-dimensional figures.~~]	[~~Grade 5: (4)(H), (6)(A)-(B)~~] [~~Grade 7: (9)(A), (9)(D)~~] [~~Grade 8: (6)(A)-(B), (7)(A)-(B), (10)(D)~~] [~~Geometry: (10)(B), (11)(C)-(D)~~] [~~Mathematical Models with Applications: (6)(B), (7)(D)~~]		[~~Applied Mathematics for Technical Professionals: (3)(B), (3)(E), (3)(H); Engineering Mathematics: (6)(K)-(O), (8)(C)-(D), (8)(G); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(B), (4)(E), (5)(F), (7)(C), (8)(A), (9)(B), (10)(B), (11)(A)-(C), (12)(C), (12)(E); Mathematics for Medical Professionals: (7)(A)-(B); Agricultural Mechanics and Metal Technology: (11)(E); Engineering Science: (11)(B); Diversified Manufacturing I: (2)(C); Diversified Manufacturing II: (2)(C); Manufacturing Engineering Technology I: (8)(B); Metal Fabrication and Machining I: (2)(C), (7)(A); Metal Fabrication and Machining II: (3)(E), (8)(B); Precision Metal Manufacturing I: (3)(B), (3)(E); Welding II: (3)(D); Small Engine Technology I: (6)(C); Small Engine Technology II: (7)(D)-(E)~~]	
[~~IV.C.3. Determine indirect measurements of figures using scale drawings, similar figures, the Pythagorean Theorem, and basic trigonometry.~~]	[~~Grade 6: (5)(A), (8)(A)~~] [~~Grade 7: (5)(A), (5)(C)~~] [~~Grade 8: (3)(A), (6)(C), (7)(C)-(D)~~] [~~Geometry: (5)(A), (5)(D), (9)(B), (10)(B)~~] [~~Precalculus: (4)(E)-(I), (4)(K)~~] [~~Mathematical Models with Applications: (6)(C)-(D), (7)(A)~~] [~~Advanced Quantitative Reasoning: (2)(D)~~]		[~~Applied Mathematics for Technical Professionals: (3)(G)-(H), (4)(D), (4)(F) Engineering Mathematics: (4)(C), (5)(A)-(B) ; Mathematical Applications in Agriculture, Food, and Natural Resources: (7)(C), (8)(B); Agricultural Mechanics and Metal Technology: (11)(E); Masonry Technology II: (2)(D); Diversified Manufacturing I: (2)(C)~~]	

[D. Measurement involving statistics and probability]				
[IV.D.1. Compute and use measures of center and spread to describe data.]	[Grade 6: (12)(B), (13)(B)] [Grade 7: (12)(A)] [Grade 8: (11)(B)] [Mathematical Models with Applications: (9)(B)] [Advanced Quantitative Reasoning: (4)(K), (4)(P)] [Statistics: (4)(B)-(E)]	[Aquatic Science: (2)(F)] [Environmental Systems: (2)(F)]	[Engineering Mathematics: (4)(D), (11)(B), (11)(D); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(C), (5)(E), (6)(C); Mathematics for Medical Professionals: (6)(C)-(D); Statistics and Business Decision Making: (10)(A)-(C), (14)(A)-(C), (15)(A), (16)(F)-(H), (17)-(19); Engineering Science: (15)(F); Biotechnology I: (3)(F)]	
[IV.D.2. Apply probabilistic measures to practical situations to make an informed decision.]	[Grade 7: (6)(B)-(D), (6)(F), (6)(H)] [Grade 8: (11)(C)] [Mathematical Models with Applications: (9)(B)] [Advanced Quantitative Reasoning: (4)(D)-(F), (4)(H)-(K), (4)(O)-(S)] [Statistics: (4)(C), (4)(E)-(F), (5)(D), (6)(C)-(F), (6)(I)-(J)]		[Mathematics for Medical Professionals: (6)(C)-(G); Statistics and Business Decision Making: (12)-(13); Engineering Science: (15)(A), (15)(D)-(E); Business Information Management II: (7)(B)]	[Grade 7: (6)(B)-(D), (6)(F), (6)(H)] [Grade 8: (11)(C)] [Mathematical Models with Applications: (9)(B)] [Advanced Quantitative Reasoning: (4)(D)-(F), (4)(H)-(K), (4)(O)-(S)] [Statistics: (4)(C), (4)(E)-(F), (5)(D), (6)(C)-(F), (6)(I)-(J)]
IV. [V.] Probabilistic Reasoning				
A. Counting principles				
IV. [V.] A.1. Determine the nature and the number of elements in a finite sample space.	Grade 7: (6)(A) Geometry: (13)(A) Mathematical Models with Applications: (8)(A) Advanced Quantitative Reasoning: (2)(E)		Statistics and Business Decision Making: (9), (11)(A)	Discrete Mathematics for Computer Science: (1)(C), (2)(D), (4)(N), (6)(B), (6)(H), (6)(M)
B. Computation and interpretation of probabilities				
IV. [V.] B.1. Compute and interpret the probability of an event and its complement.	Grade 7: (6)(C)-(E), (6)(I) Geometry: (13)(B)-(E) Advanced Quantitative Reasoning: (4)(C) Statistics: (5)(A)-(B)		Statistics and Business Decision Making: (11)(B) Engineering Science: (15)(D)-(E)	Discrete Mathematics for Computer Science: (1)(C), (4)(N), (6)(J)-(K)
IV. [V.] B.2. Compute and interpret the probability of conditional and compound events.	Grade 7: (6)(C)-(E), (6)(I) Geometry: (13)(C)-(E) Advanced Quantitative Reasoning: (4)(A)-(F) Statistics: (5)(A)-(B)		Statistics and Business Decision Making: (11)(B) Engineering Science: (15)(D)-(E)	Discrete Mathematics for Computer Science: (1)(C), (4)(K), (4)(N), (6)(J)-(K)
C. Measurement involving probability				
IV.C.1. Use probability to make informed decisions. [V.]	Grade 7: (6)(B)-(D), (6)(F), (6)(H) Grade 8: (11)(C) Mathematical Models with Applications: (9)(B) Advanced Quantitative Reasoning: (4)(D)-(F), (4)(H)-(K), (4)(Q)-(S) Statistics: (4)(C), (4)(E)-(F), (5)(D), (6)(C)-(F), (6)(I)-(J)		Mathematics for Medical Professionals: (6)(C)-(G); Statistics and Business Decision Making: (12)-(13); Engineering Science: (15)(A), (15)(D)-(E) Business Information Management II: (7)(B)	
V. [VI.] Statistical Reasoning				
A. Design a study [Data collection]				
V. [VI.].A.1. Formulate a statistical question, plan an investigation, and collect data. [Plan a study.]	Kindergarten - Grade 12: (1)(B)Mathematical Models with Applications: (9)(C), (10)(A)Advanced Quantitative Reasoning: (4)(K)-(O), (4)(S) Statistics: (2)(A)-(G)	Kindergarten – Grade 2: (2)(A)-(C) Grades 3 – 4: (2)(A)-(B) Grade 5 - 8: (2)(A)-(C) Aquatic Science: (2)(E) Astronomy: (2)(E) Biology: (2)(E) Chemistry: (2)(E) Environmental Systems: (2)(E) Integrated Physics and Chemistry: (2)(B) Physics: (2)(ED)	Accounting II: (2)(B), (8)(A); Applied Mathematics for Technical Professionals: (1)(B); Digital Electronics: (2)(B); Engineering Mathematics: (2)(B); Financial Mathematics: (2)(B); Manufacturing Engineering Technology II: (2)(B); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(B); Mathematics for Medical Professionals: (2)(B), (6)(H); Robotics II: (2)(B); Statistics and Business Decision Making: (2)(B), (8)(A)-(E); AC/DC Electronics: (4)(D); Engineering Science: (3)(E); Biotechnology I: (3)(E); Biotechnology II: (3)(E); Scientific Research and Design: (3)(E)	Robotics Programming and Design: (1)(B)
B. Describe data				
V. [VI.].B.1. Classify [Determine] types of data.	Grade 5: (9)(A)-(B) Grade 6: (12)(C)-(D), (13)(B) Advanced Quantitative Reasoning: (4)(L)-(N) Statistics: (2)(D), (4)(A)	[Integrated Physics and Chemistry: (4)(B) Physics: (2)(L)]	Mathematical Applications in Agriculture, Food, and Natural Resources: (6)(D), (7)(D), (8)(C), (9)(C), (10)(C), (11)(D), (12)(D); Statistics and Business Decision Making: (9); Principles of Technology: (3)(F); Engineering Design and Problem Solving: (3)(F); Engineering Science: (3)(F); Scientific Research and Design: (3)(F); Principles of Information Technology: (9)(D); Business Information Management I: (7)(D)	

V. [~~V.~~].B.2. Construct [~~Select and apply~~] appropriate visual representations of data.	Kindergarten: (8)(A)-(B) Grade 1: (8)(A)-(B) Grade 2: (10)(B) Grade 3: (8)(A) Grade 4: (9)(A) Grade 5: (9)(A)-(B) Grade 6: (12)(A) Grade 8: (11)(A) Mathematical Models with Applications: (10)(B) Advanced Quantitative Reasoning: (3)(A), (4)(P)-(R), (4)(T) Statistics: (2)(F)	Kindergarten – Grade 2: (2)(D) Grade 3 – 4: (2)(C) Grade 5: (2)(G) Grades 6 - 8: (3)(C) Aquatic Science: (2)(J) Biology: (2)(H) Chemistry: (2)(I) Earth and Space Science: (2)(I) Environmental Systems: (2)(K) Integrated Physics and Chemistry: (2)(E), (3)(B), (4)(B) Physics: (2)(~~I~~J)-(L), (4)(A)-(~~D~~F), (6)(D)	Accounting II: (1)(A), (4)(I); Digital Electronics: (1)(C); Engineering Mathematics: (1)(C); Financial Mathematics: (1)(A), (6)(F); Manufacturing Engineering Technology II: (1)(F); Mathematical Applications in Agriculture, Food, and Natural Resources: (5)(D); Mathematics for Medical Professionals: (1)(A); Robotics II: (1)(J); Statistics and Business Decision Making: (1)(A), (7)(D), (9); Principles of Technology: (3)(J)-(K), (5)(H), (5)(J); Engineering Design and Problem Solving: (3)(H); Engineering Science: (3)(H); Scientific Research and Design: (3)(J), (10)(A); Principles of Information Technology: (5)(D); Business Information Management I: (9)(A)-(C), (11)(C)	
V. [~~V.~~].B.3. Compute and describe the study data with measures of center and basic notions of spread. [~~summary statistics of data~~.]	Grade 2, (10)(C) Grade 3: (8)(A)-(B) Grade 4: (9)(B) Grade 5: (9)(C) Grade 6: (12)(B)-(D), (13)(A)-(B) Grade 7: (6)(G), (12)(A) Grade 8: (11)(B) Mathematical Models with Applications: (9)(B), (9)(D) Advanced Quantitative Reasoning: (4)(I), (4)(K), (4)(P) Statistics: (4)(B)-(E), (5)(C)-(D)	[~~Aquatic Science: (2)(F); Environmental Systems: (2)(F)~~]	Engineering Mathematics: (4)(D), (11)(B), (11)(D) Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(C), (5)(E), (6)(C) Mathematics for Medical Professionals: (6)(C)-(G) Statistics and Business Decision Making: (10)(A)-(C), (14)(A)-(C), (15)(A), (16)(E)-(H), (17)-(19); Engineering Science: (15)(F) Biotechnology I: (3)(F) Engineering Mathematics: (11)(B), (11)(D) Diversified Manufacturing I: (10)(B) Business Information Management I: (11)(A) Food Science: (3)(E),(H), (6)(F)	
V. [~~V.~~].B.4. Describe patterns and departure from patterns in the study [~~a set~~] of data.	Grade 4: (5)(B) Grade 5: (4)(D), (9)(B)-(C) Grade 8: (5)(C)-(D), (11)(A) Algebra I: (4)(A) Algebra II: (8)(A) Mathematical Models with Applications: (2)(C), (8)(C), (9)(A)-(B), (9)(E)-(F) Advanced Quantitative Reasoning: (3)(B), (4)(P)-(S) Statistics: (4)(C), (7)(A)-(B), (7)(C), (7)(E)-(F)	Grades 3 - 5: (2)(D) Grades 6 - 8: (2)(D) Aquatic Science: (2)(H) Astronomy: (2)(G), (9)(B) Biology: (2)(G) Chemistry: (2)(H) Earth and Space Science (2)(G) Environmental Systems: (2)(I) Integrated Physics and Chemistry: (2)(D), (7)(F) Physics: (2)(HJ), (2)(JL), (3)(A), (3)(EF)	Accounting II: (8)(A) Applied Mathematics for Technical Professionals: (6)(C) Engineering Mathematics: (11)(B), (11)(D) Financial Mathematics: (6)(F) Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(B), (4)(G), (5)(B), (6)(D), (7)(D), (8)(C), (9)(C), (10)(C), (11)(D), (12)(D) Mathematics for Medical Professionals: (3)(C), (4)(A) Statistics and Business Decision Making: (7)(A), (16)(F)-(H), (17)-(19), (20)(A)-(C), (21), (22)(A)-(D) Engineering Science: (15)(F) Biotechnology I: (3)(F) Business Information Management I: (11)(A)	
C. [~~Read.~~] A[a]nalyze, interpret, and draw conclusions from data				
V. [~~V.~~].C.1. Analyze data sets using graphs and summary statistics. [~~Make predictions and draw inferences using summary statistics~~.]	Grade 5: (9)(A)-(C) Grade 6: (12)(A), (12)(C)-(D), (13)(A) Grade 7: (12)(A)-(C) Grade 8: (11)(A) Algebra I: (4)(A) Algebra II: (8)(A) Mathematical Models with Applications: (9)(A)-(B), (9)(E), (10)(B) Advanced Quantitative Reasoning: (3)(C), (4)(P)-(R) Statistics: (4)(B), (4)(D)-(E)	Grades 6-8: (2)(E), (3)(A) [~~, (3)(C)~~] Aquatic Science: (2)(F), (3)(A) [~~, (3)(C)~~] Astronomy: (2)(G), (3)(A) [~~, (3)(C)~~] Biology: (2)(G), (3)(A) [~~, (3)(C)~~] Chemistry: (2)(H), (3)(A)~~, (3)(C)~~ Earth and Space Science: (2)(G), (3)(A) [~~, (3)(C)~~] Environmental Systems: (2)(F), (2)(I), (3)(A), [~~, (3)(C)~~] Integrated Physics and Chemistry: (2)(D), [~~, (3)(C) (7)(F)~~] Physics: (2)(I)-(J), (3)(A) [~~(C), (3)(F)~~]	Applied Mathematics for Technical Professionals: (6)(C) ; Engineering Mathematics: (11)(B)-(D); Manufacturing Engineering Technology II: (8)(C); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(B)-(C), (4)(G), (5)(B), (5)(E), (6)(C), (7)(D), (8)(C), (9)(C), (10)(C), (11)(D), (12)(D); Mathematics for Medical Professionals: (3)(C), (4)(A), (6)(C)-(G); Statistics and Business Decision Making: (7)(B), (9), (10)(B)-(C), (12)-(13), (16)(E)-(H), (17)-(19), (20)(C), (21); Engineering Design and Problem Solving: (3)(H); Engineering Science: (3)(H); Scientific Research and Design: (3)(J), (10)(A); Web Technologies: (8)(G); Business Information Management I: (10)(C-D)	
V. [~~V.~~].C.2. Analyze relationships between paired data using spreadsheets, graphing calculators, or statistical software. [~~Analyze data sets using graphs and summary statistics~~.]	Kindergarten - Grade 12: (1)(C) Grade 8: (5)(C), (11)(A) Algebra I: (4)(A), (4)(C), (8)(B), (9)(E) Algebra II: (8)(A)Mathematical Models with Applications: (8)(C), (9)(F) Advanced Quantitative Reasoning: (3)(A), (4)(P), (4)(R) Statistics: (5)(C)-(D) Algebraic Reasoning: (2)(C)-(D)	Grades 6-8: (2)(D)-(E), (3)(A) Aquatic Science: (2)(F), (2)(H), (2)(J), (3)(A), (3)(C), (4)(C), (5)(A)-(B) Astronomy: (2)(F)-(G), (2)(I), (3)(A), (3)(C), (6)(D), (8)(C), (11)(C), (11)(G) Biology: (2)(G), (3)(A), (2)(F), (2)(H) Chemistry: (2)(H), (3)(A), (2)(E), (2)(I), (11)(C) Earth and Space Science: (2) [~~(G)~~] (E)-(I) (3)(A), (4)(A), (5)(A), (13)(A)-(C), (14)(A), (15)(B), (15)(C), (15)(E) Environmental Systems: (2)(F)-(I), (2)(K), (3)(A), (4)~~(A)~~(D), (4)(F)-(G), [~~(5)(E),~~] (7)(B)-(D), ~~(8)(A),~~ (8)(E) Integrated Physics and Chemistry: (2)(D)-(E), (3)(A), (4)(A)-(B), (4)(D), ~~(7)(F)~~ Physics: (2) [~~(I)-(L)~~ (H)-(J), (3)(A)-~~(D)~~, (3)(EF), (4)(A)-(D), (5)(B)-(C), (5)(F), (6)(A), (6)(C), (7)(B), (8)(C)	[~~Accounting II: (2)(C), (8)(A)Applied Mathematics for Technical Professionals: (1)(C), (6)(C)Digital Electronics: (2)(C) Engineering Mathematics: (2)(C) Financial Mathematics: (2)(C), (4)(F), (6)(F) Manufacturing Engineering Technology II: (2)(C)Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(C), (4)(G), (5)(B), (6)(C), (7)(D), (8)(C), (9)(C), (10)(C), (11)(D), (12)(D)Mathematics for Medical Professionals: (2)(C), (4)(A)Robotics II: (2)(C) Statistics and Business Decision Making: (2)(C), (7)(C)-(D), (17)-(19), (20)(A)-(C), (21), (22)(A)-(D) Principles of Technology: (3)(J)-(K), (5)(H), (5)(J); Engineering Design and Problem Solving: (3)(H); Engineering Science: (3)(H); Scientific Research and Design: (3)(J), (10)(A); Principles of Information Technology: (8)(E)~~] Applied Mathematics for Technical Professionals: (6)(C); Financial Mathematics: (4)(F), (6)(F); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(G), (5)(B), (6)(D), (7)(D), (8)(C), (9)(C), (10)(C), (11)(D), (12)(D); Mathematics for Medical Professionals: (4)(A); Statistics and Business Decision Making: (7)(C)-(D), (20)(A)-(C), (21), (22)(A)-(D) Principles of Technology: (3)(I)-(K), (5)(H)-(J); Engineering Design and Problem Solving: (3)(G)-(H); Engineering Science: (3)(H); Scientific Research and Design: (3)(G)-(J), (10)(A); Principles of Information Technology: (8)(E)	Robotics Programming and Design: (1)(C)

V. [~~VI.~~].C.3. Make predictions using summary statistics. [~~Analyze relationships between paired data using spreadsheets, graphing calculators, or statistical software~~.]	Kindergarten: (8)(C) Grade 1: (8)(C) Grade 2: (10)(D) Grade 6: (12)(C)-(D) Grade 7: (6)(F), (12)(B)-(C) Grade 8: (11)(C) Mathematical Models with Applications: (8)(C), (9)(B), (9)(D)-(F), (10)(A) Advanced Quantitative Reasoning: (3)(B), (4)(K), (4)(R) Statistics: (4)(D), (4)(F), (6)(I)-(J)	Grades 6-8: (2)(E) Aquatic Science: (2)(F), (2)(H) Astronomy: (2)(G) Biology: (2)(~~F~~G) Chemistry: (2)(H) Earth and Space Science: (2)(G) Environmental Systems: (2)(F), (2)(I) Integrated Physics and Chemistry: (2)(D), (7)(F) Physics: (2)(H), (2)(J), [~~(L), (3)(A),~~] (3)(F)	Applied Mathematics for Technical Professionals: (6)(C) Engineering Mathematics: (11)(B), (11)(D) Financial Mathematics: (6)(F); Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(B)-(C), (5)(E), (6)(C), (7)(D), (8)(C), (9)(C), (10)(C), (11)(D), (12)(D) Mathematics for Medical Professionals: (6)(C), (6)(F)-(G) Statistics and Business Decision Making: (16)(E)-(H), (17)-(19), (20)(C), (21); Engineering Science: (15)(F) Biotechnology I: (3)(F)	
V. [~~VI.~~]C.4. Identify and explain misleading uses of data. [~~Recognize reliability of statistical results~~.]	Algebra I: (4)(A) Mathematical Models with Applications: (8)(C), (9)(E) Advanced Quantitative Reasoning: (3)(B), (4)(H)-(K), (4)(O), (4)(Q)-(S) Statistics: (7)(C), (7)(E)-(F)	Grade 3-8: (3)(A) Aquatic Sciences: (3)(A)-(C) Astronomy: (3)(A)-(C) Biology: (3)(A)-(C) Chemistry: (3)(A)-(C) Earth and Space Science: (3)(A)-(C) Environmental Systems: (3)(A)-(C) Integrated Physics and Chemistry: [~~(2)(D),~~] (3)(A)-(C), [~~(3)(C)~~] Physics: (2)(I)-(J), (3)(A)-(C)	[~~Mathematical Applications in Agriculture, Food, and Natural Resources: (5)(C);~~] [~~Statistics and Business Decision Making: (4)(A)-(E), (5), (7)(B)~~] [~~Principles of Technology: (3)(J)-(K), (5)(H), (5)(J)~~] [~~Engineering Design and Problem Solving: (3)(H)~~] [~~Engineering Science: (3)(H)~~] [~~Scientific Research and Design: (3)(J)~~] Mathematical Applications in Agriculture, Food, and Natural Resources: (5)(C) Statistics and Business Decision Making: (4)(A)-(E), (5), (7)(B) Principles of Technology: (3)(J)-(K), (4)(A), (5)(H), (5)(J) Engineering Design and Problem Solving: (3)(H)	
VI. [~~VII.~~] Functions				
A. Recognition and representation of functions				
VI.[~~VII.~~]A.1. Recognize if [~~whether~~] a relation is a function.	Grade 8: (5)(G) Algebra I: (12)(A)			
VI.[~~VII.~~]A.2. Recognize and distinguish between different types of functions.	Grade 6: (4) Grade 8: (5)(F), (5)(H), (11)(A) Algebra II: (2)(A), (8)(A)-(B) Precalculus: (2)(F), (2)(I)-(M) Mathematical Models with Applications: (7)(A) Advanced Quantitative Reasoning: (3)(A)-(H) Statistics: (7)(A) Algebraic Reasoning: (2)(A)-(D), (3)(A)-(C), (3)(F), (4)(B), (6)(A)-(C), (7)(A)-(B), (7)(D)-(E)	Physics: (3)(~~F~~E)	Applied Mathematics for Technical Professionals: (2)(B) Mathematical Applications in Agriculture, Food, and Natural Resources: (6)(B), (7)(B), (8)(A), (9)(A), (10)(A), (11)(B)	
B. Analysis of functions				
VI.[~~VII.~~]B.1. Understand and analyze features of a function~~s~~.	Grade 6: (6)(A) Grade 7: (7) Grade 8: (4)(A), (4)(C), (11)(A) Algebra I: (2)(A), (3)(A)-(C), (6)(A), (7)(A), (9)(A)-(B), (9)(D) Algebra II: (2)(A), (2)(C), (5)(C), (6)(K), (7)(I) Precalculus: (2)(F)-(O) Mathematical Models with Applications: (7)(A) Advanced Quantitative Reasoning: (3)(A)-(H) Statistics: (7)(A), (7)(C), (7)(E) Algebraic Reasoning: (2)(A)-(D), (3)(A)-(F), (4)(A)-(D), (7)(A)-(B), (7)(D)-(E)		Applied Mathematics for Technical Professionals: (2)(B), (2)(H), (5)(A), (6)(A), (6)(C); Financial Mathematics: (4)(F), (5)(C)-(D), (7)(A), (11)(B), (11)(D), (17)(F) Mathematical Applications in Agriculture, Food, and Natural Resources: (6)(B), (7)(B), (8)(A), (9)(A), (10)(A), (11)(B) Mathematics for Medical Professionals: (4)(A)-(C), (4)(E) Statistics and Business Decision Making: (20)(A), (22)(A)-(D)	
VI.[~~VII.~~]B.2. Algebraically construct and analyze new functions.	Grade 8: (5)(E) Algebra I: (2)(D), (3)(E), (7)(C) Algebra II: (2)(B), (4)(C), (4)(E), (5)(A)-(B), (6)(A), (6)(C), (6)(G)-(H), (6)(L) Precalculus: (2)(A), (2)(C), (2)(E), (2)(G), (3)(B)-(C) Mathematical Models with Applications: (9)(F) Advanced Quantitative Reasoning: (3)(A)-(H) Statistics: (7)(B) Algebraic Reasoning: (3)(D)-(F), (4)(A)-(C)		Applied Mathematics for Technical Professionals: (5)(E) Financial Mathematics: (6)(C), (7)(A)	

C. Model real-world situations with functions				
VI.[~~VII.~~]C.1. Apply known functions to model real-world situations. [~~models~~.]	Grade 8: (5)(D) Algebra I: (2)(D), (4)(C), (8)(B), (9)(B), (9)(E), (12)(D) Algebra II: (3)(A), (3)(E), (4)(E), (5)(B), (6)(D), (6)(H), (6)(L), (8)(A)Precalculus: (2)(N)-(P) Mathematical Models with Applications: (3)(A), (3)(C)-(D), (5)(A)-(C), (7)(A) Advanced Quantitative Reasoning: (3)(A), (3)(C), (3)(E)-(H) Statistics: (7)(A)-(B) Algebraic Reasoning: (2)(A)-(D), (3)(C)-(E), (5)(D)-(E), (6)(B), (7)(D)-(E)	Physics: (4)(B)-(C), (7)(B)-(C)	Applied Mathematics for Technical Professionals: (2)(B), (2)(H), (5)(A), (6)(A), (6)(C) Financial Mathematics: (4)(F), (5)(C), (7)(A), (11)(B), (11)(D) Mathematical Applications in Agriculture, Food, and Natural Resources: (5)(F), (6)(B), (7)(B), (8)(A), (9)(A), (10)(A), (11)(B) Mathematics for Medical Professionals: (4)(A)-(C), (4)(E) Statistics and Business Decision Making: (20)(A)-(C), (21), (22)(A)-(D) Engineering Science: (10)(G)-(H), (16)(C)-(D) Food Science: (8)(C)	
VI.[~~VII.~~]C.2. Develop a function to model a situation.	Grade 6: (6)(C) Grade 7: (7) Grade 8: (4)(B)-(C) Algebra I: (2)(B)-(G), (4)(C), (6)(B)-(C), (9)(C), (9)(E), (12)(D) Algebra II: (4)(A)-(B), (4)(E), (5)(B), (6)(D), (6)(H), (6)(L), (8)(B) Precalculus: (2)(N)-(P), (5)(H)-(I), (5)(N) Mathematical Models with Applications: (5)(B)-(C), (7)(A), (9)(F) Advanced Quantitative Reasoning: (3)(A), (3)(C)-(H) Statistics: (7)(B)-(D) Algebraic Reasoning: (2)(C)-(D), (3)(C)-(F), (6)(B), (7)(D)-(E)	Physics: (3)(E) [~~(F)~~]	Applied Mathematics for Technical Professionals: (2)(B), (2)(H), (5)(A), (6)(A), (6)(C) Financial Mathematics: (4)(F), (5)(C), (7)(A), (11)(B), (17)(F) Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(F), (5)(F), (6)(C) Mathematics for Medical Professionals: (4)(A) Robotics II: (7)(H)-(K), (8)(I)-(J) Statistics and Business Decision Making: (20)(B), (21) Engineering Science: (10)(G)-(H), (13)(A)-(E); (16)(C)-(D) Principles of Information Technology: (8)(C) Precision Metal Manufacturing II: (12)(C) Precision Metal Manufacturing II Lab: (7)(C)	Robotics Programming and Design: (5)(A)-(F)
VII. [~~VIII.~~] Problem Solving and Reasoning				
A. Mathematical problem solving				
VII.[~~VIII.~~]A.1. Analyze given information.	Kindergarten - Grade 12: (1)(B), (1)(F) Grade 8: (5)(C)-(D), (5)(F) Algebra I: (2)(A), (3)(E), (6)(A), (9)(A), (10)(F) Algebra II: (2)(A), (2)(C), (4)(G), (5)(A), (5)(E), (6)(A), (6)(C), (6)(G), (6)(J)-(K), (8)(A) Geometry: (2)(A), (5)(A)-(D), (6)(A)-(B), (6)(D)-(E), (7)(A)-(B), (8)(A)-(B), (9)(A)-(B), (10)(B), (12)(B)-(E), Precalculus: (2)(D), (2)(I)-(L), (2)(N) Mathematical Models with Applications: (2)(C), (3)(B)-(D), (4)(A)-(C), (6)(A), (7)(A)-(D), (8)(A), (8)(C), (9)(A)-(E) Advanced Quantitative Reasoning: (2)(B), (2)(G), (3)(B)-(H), (4)(G)-(Q) Discrete Mathematics for Problem Solving: (2)(A)-(L), (3)(A)-(C), (5)(G), (5)(J), (6)(J), (7)(D)-(F) Statistics: (2)(A)-(D), (2)(G), (3)(A), (3)(C)-(D), (4)(C)-(F), (5)(B), (5)(D), (6)(E), (6)(I), (7)(A), (7)(C)-(E) Algebraic Reasoning: (2)(A), (2)(C)-(D), (3)(A)-(B), (3)(F), (4)(A)-(B), (6)(A), (7)(A)-(E)	Grades 6 - 8: (2)(E),(3)(A) Grade 8: (6)(A)-(C), Aquatic Science: (2)(H), (3)(A)-(B) Astronomy: (2)(G), (3)(A)-(B), (7)(A)-(B), (8)(A)-(B), (9)(A)-(B) Biology: (2)(G), (3)(A)-(B) Chemistry: (2)(H), (3)(A)-(B) Earth and Space Science: (2)(G), (3)(A)-(B), (4)(A), (5)(A), (13)(A)-(C), (14)(A), (15)(B), (15)(E) Environmental Systems: (2)(I), (3)(A), (4)(A), (4)(F)-(G), (5)(E), (7)(D), (8)(A), (8)(E) Integrated Physics and Chemistry: (2)(D),(3)(A), (4)(C), (~~4)(G),~~ (5)(D)-(I), (6)(A)-(E), (7)(A)-(F) Physics: (2)(~~H)-(J~~), ~~(2)(L),~~ (3)(A)-(BC), (4)(A)-(C), ~~(4)(E)-(F~~), (5)(A)-(C), ~~(5)(G)-(H),~~ (6)(E)-~~(G),~~ (7)(A), (7)(C), (7)(E)-(F), (8)(A), (8)(C)	Accounting II: (2)(B), (2)(F), (3)(A), (4)(H)-(I), (5)(B), (5)(L)-(N), (6)(B), (6)(D)(i)-(iii), (6)(E)(i)-(vi), (6)(G)(i)-(iv), (6)(H), (6)(K)(i)-(iii), (6)(K)(v), (6)(R)(i)-(vi), (8)(A); Applied Mathematics for Technical Professionals: (1)(B), (1)(F), (2)(B), (2)(D), (2)(H), (3)(E)-(F), (3)(H), (3)(J)-(K), (5)(A), (5)(C)-(E), (6)(A), (6)(C), (7)(D); Digital Electronics: (2)(B), (2)(F); Engineering Mathematics: (2)(B), (2)(F), (6)(B)-(C), (7)(C), (9)(B)-(D), (10)(B), (10)(F)-(G), (10)(I), (10)(K), (11)(B)-(E); Financial Mathematics: (2)(B), (2)(F), (3)(B)-(E), (3)(G), (3)(J)-(L), (4)(E), (4)(K), (5)(B), (5)(D)-(F), (6)(A), (6)(C)-(D), (6)(G)-(I), (7)(A), (7)(C), (7)(E), (7)(I)-(L), (8)(C)-(E), (9)(A), (9)(C)-(D), (10)(A), (10)(D)-(E); Manufacturing Engineering Technology II: (2)(B), (2)(F), (3)(B), (4)(B), (7)(B), (8)(C), (9)(C); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(B), (2)(F), (4)(B), (4)(G), (5)(B), (6)(C), (7)(D), (8)(C), (9)(C), (10)(C), (11)(D), (12)(D); Mathematics for Medical Professionals: (2)(B), (2)(F), (3)(C), (4)(A)-(C), (4)(E), (6)(A)-(C), (7)(D); Robotics II: (2)(B), (2)(F), (6)(B), (10)(A)-(C), (10)(E)-(F), (11)(B), (12)(A), (12)(E)-(F); Statistics and Business Decision Making: (2)(B), (2)(F), (3)(A), (3)(C), (4)(A)-(E), (5), (6)(A)-(C), (7)(B); Engineering Design and Problem Solving: (4)(A); Engineering Science: (4)(A); Biotechnology I: (4)(A); Biotechnology I: (4)(A); Scientific Research and Design: (4)(A); Principles of Information Technology: (8)(E); Diversified Manufacturing I: (10)(B); Diversified Manufacturing II: (6)(B), (11)(B); Manufacturing Engineering Technology I: (8)(B); Precision Metal Manufacturing II: (7)(A), (11)(D)-(H); Small Engine Technology II: (6)(B); Business Information Management I: (10)(C)-(D); Food Science:(1)(E)(4)	Discrete Mathematics for Computer Science: (4)(A)-(C), (4)(F), (4)(J), (4)(L)-(O), (6)(A)-(B), (6)(D)-(G), (6)(M) Robotics Programming and Design: (1)(B), (1)(F), (2)(F), (3)(D), (4)(C), (4)(E), (5)(G), (7)(B)-(E), (7)(I), (7)(P), (7)(T)

VII.[~~VIII.~~]A.2. Formulate a plan or strategy.	Kindergarten - Grade 12: (1)(B) Mathematical Models with Applications: (10)(A) Advanced Quantitative Reasoning: (2)(H) Discrete Mathematics for Problem Solving: (2)(G), (2)(K)-(L), (3)(E), (7)(G) Statistics: (2)(A)-(F) Algebraic Reasoning: (7)(D)-(E)	Kindergarten – Grade 2: (2)(B), Grades 3-5: (2)(A) Grades 6-8: (2)(A-B) Aquatic Science: (2)(E)-(F) Astronomy: (2)(E)-(F) Biology: (2)(E)-(F) Chemistry: (2)(E)-(F) Environmental Systems: (2)(E)-(F) Integrated Physics and Chemistry: (2)(B) Physics: (2)(~~E~~D)	Accounting II: (1)(E), (2)(B), (4)(H)-(I), (5)(L)-(N), (6)(C)-(E), (6)(G)-(H), (6)(J)-(K); Applied Mathematics for Technical Professionals: (1)(B); Digital Electronics: (2)(B), (5)(A)-(B), (5)(D); Engineering Mathematics: (2)(B); Financial Mathematics: (2)(B); Manufacturing Engineering Technology II: (2)(B), (3)(A), (3)(C)-(D), (4)(A), (5)(A), (5)(C), (8)(A), (9)(A); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(B); Mathematics for Medical Professionals: (2)(B), (6)(H) Robotics II: (2)(B), (4)(A)-(B), (6)(B), (7)(H)-(K), (8)(A)-(J), (10)(A)-(B), (11)(C), (12)(A)-(B); Statistics and Business Decision Making: (2)(B); Principles of Technology: (4)(A), (7)(A); Engineering Design and Problem Solving: (4)(A); Engineering Science: (4)(A); Biotechnology I: (4)(A); Biotechnology I: (4)(A); Scientific Research and Design: (4)(A); Principles of Information Technology: (1)(G); Web Technologies: (9)(C); Diversified Manufacturing II: (6)(B); Manufacturing Engineering Technology I: (2)(B), (8)(C); Precision Metal Manufacturing II: (7)(A)-(B), (11)(D), (12)(D)-(G); Precision Metal Manufacturing II Lab: (6)(D)-(H), (7)(D)-(G); Small Engine Technology II: (6)(B)	Discrete Mathematics for Computer Science: (1)(A)-(B), (4)(D)-(F), (4)(L)-(O), (6)(A)-(D), (6)(G), (6)(I), (6)(M) Robotics Programming and Design: (1)(B), (3)(A)-(B), (3)(D), (4)(B)-(C), (4)(E), (5)(A)-(G), (7)(B), (7)(H)-(I), (7)(K), (7)(M), (7)(P), (7)(T)
VII.[~~VIII.~~]A.3. Determine a solution.	Kindergarten - Grade 12: (1)(B) Grade 4: (7)(E), (8)(C) Grade 6: (8)(D), (10)(A) Grade 7: (6)(G)-(H), (9)(A)-(D), (11)(A) Grade 8: (8)(C), (9) Algebra I: (5)(A)-(C), (8)(A) Algebra II: (3)(B)-(C), (3)(F)-(G), (4)(F), (4)(H), (5)(D), (6)(B), (6)(E)-(F), (6)(I), (6)(L), (7)(H) Geometry: (5)(D), (6)(A), (6)(D)-(E), (7)(B), (8)(A)-(B), (9)(A)-(B), (11)(A)-(D), (12)(A)-(C) Precalculus: (2)(N), (3)(C), (4)(D)-(K), (5)(H)-(K), (5)(N) Mathematical Models with Applications: (2)(A)-(B), (5)(A), (6)(C)-(D) Advanced Quantitative Reasoning: (2)(C)-(E) Discrete Mathematics for Problem Solving: (2)(E)-(F), (2)(J), (3)(F), (4)(J), (5)(D), (6)(K) Statistics: (6)(C)-(D) Algebraic Reasoning: (5)(D)-(E), (6)(B)-(C)	[~~Kindergarten – Grade 2: (3)(A)~~] Grades 1 & 2: (3)(A) Grades 3 - 5: (2)(D) Grades 6 – 8: (2)(E) Aquatic Science: (2)(J) Astronomy: (2)(H) Biology: (2)(H) Chemistry: (2)(I) Integrated Physics and Chemistry: (2)(E) Physics: (2)(I), (3)(~~FE~~) Environmental Systems: (2)(K) Earth and Space Science: (2)(I)	Accounting II: (1)(B), (1)(E), (2)(B), (3)(C)-(D), (3)(F), (3)(I), (4)(C)-(G), (4)(I), (5)(B), (5)(D)-(F), (5)(I), (5)(K)-(P), (6)(D)(i)-(iii), (6)(E)(iii), (6)(E)(v)-(vi), (6)(G)(iii)-(iv), (6)(H), (6)(K)(i)-(iii), (6)(K)(vi)-(vii); Applied Mathematics for Technical Professionals: (1)(B), (2)(A), (2)(D), (2)(F)-(H), (3)(B)-(H), (4)(A), (4)(E)-(F), (5)(B), (5)(D), (5)(E)-(F), (6)(B); Digital Electronics: (2)(B); Engineering Mathematics: (2)(B), (3)(B)-(D), (4)(A)-(M), (5)(A)-(B), (6)(B)-(O), (7)(A), (7)(F)-(I), (8)(A), (8)(D), (8)(G)-(H), (8)(L)-(S), (9)(A), (9)(E)-(H), (10)(A)-(D), (10)(F)-(H), (10)(J), (10)(M)-(N), (11)(A)-(B), (11)(F); Financial Mathematics: (2)(B), (3)(F), (3)(H)-(I), (4)(A)-(C), (4)(F)-(I), (5)(C), (6)(B), (6)(E), (7)(B), (7)(D), (7)(F)-(G), (8)(A)-(B), (8)(F), (9)(B), (10)(B)-(C), (11)(B)-(D), (12), (15)(A), (17)(C), (17)(G); Manufacturing Engineering Technology II: (2)(B), (3)(C), (5)(B), (5)(D), (9)(B); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(B), (4)(A)-(F), (5)(F), (6)(A)-(B), (7)(A)-(C), (8)(A)-(B), (9)(A)-(B), (10)(A)-(B), (11)(A)-(C), (12)(A)-(C), (12)(E); Mathematics for Medical Professionals: (2)(B), (3)(A), (3)(C), (3)(E), (4)(A)-(B), (4)(D)-(F), (5)(C), (6)(F), (7)(A)-(D)Robotics II: (2)(B), (6)(A), (6)(C)-(D), (7)(A), (7)(D), (7)(F)-(K), (8)(A)-(J), (10)(A), (11)(A), (11)(D), (12)(C)-(D); Statistics and Business Decision Making: (2)(B); Collision Repair: (3)(D), (5)(D); Principles of Technology: (4)(A), (7)(A); Engineering Design and Problem Solving: (4)(A); Engineering Science: (4)(A); Biotechnology I: (4)(A); Biotechnology I: (4)(A); Scientific Research and Design: (4)(A); Diversified Manufacturing II: (6)(B), (9)(A), (11)(C); Metal Fabrication and Machining II: (3)(C), (8)(A); Precision Metal Manufacturing II: (7)(A); Small Engine Technology I: (1)(C), (5)(D), (6)(A); Small Engine Technology II: (1)(C), (5)(C), (6)(B), (7)(A)	Discrete Mathematics for Computer Science: (1)(A)-(B), (4)(D)-(F), (4)(L)-(N), (6)(A)-(B), (6)(G)-(M) Robotics Programming and Design: (1)(B), (2)(A), (2)(C), (2)(E), (2)(H), (3)(B), (3)(E), (4)(B)-(C), (7)(I), (7)(P), (7)(T),
VII.[~~VIII.~~]A.4. Justify the solution.	Kindergarten - Grade 12: (1)(B), (1)(G) Grade 6: (10)(B) Grade 8: (9) Algebra II: (3)(D), (4)(G), (5)(E), (6)(J), (8)(C) Mathematical Models with Applications: (3)(B), (9)(E) Advanced Quantitative Reasoning: (3)(F)-(H), (4)(S) Statistics: (6)(E)-(F), (7)(E)-(F)	Grades 3 - 5: (2)(D) Grades 6 – 8: (2)(E) Aquatic Science: (2)(J) Astronomy: (2)(H) Biology: (2)(H) Chemistry: (2)(I) Integrated Physics and Chemistry: (2)(E) Physics: (2)(I), (3)(E) Environmental Systems: (2)(K) Earth and Space Science: (2)(I)	Accounting II: (2)(B), (2)(G), (4)(I), (5)(L)-(N), (6)(H); Applied Mathematics for Technical Professionals: (1)(B), (1)(G) ; Digital Electronics: (2)(B), (2)(G); Engineering Mathematics: (2)(B), (2)(G); Financial Mathematics: (2)(B), (2)(G); Manufacturing Engineering Technology II: (2)(B), (2)(G); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(B), (2)(G); Mathematics for Medical Professionals: (2)(B), (2)(G), (3)(E); Robotics II: (2)(B), (2)(G), (4)(A)-(B), (6)(B), (7)(K), (8)(C), (10)(C)-(G), (11)(B)-(D), (12)(E)-(F); Statistics and Business Decision Making: (2)(B), (2)(G), (16)(E); Principles of Technology: (4)(A), (7)(A), Engineering Design and Problem Solving: (4)(A); Engineering Science: (4)(A); Biotechnology I: (4)(A); Scientific Research and Design: (4)(A); Diversified Manufacturing I: (5)(A); Diversified Manufacturing II: (6)(B); Precision Metal Manufacturing II: (7)(A); Small Engine Technology II: (6)(B)	Robotics Programming and Design: (1)(B), (1)(G), (2)(D), (2)(F), (3)(F)-(H), (4)(A), (4)(C)-(E), (7)(T)
VII.[~~VIII.~~]A.5. Evaluate the problem-solving process.	Kindergarten - Grade 12: (1)(B) Algebra II: (2)(D) Mathematical Models with Applications: (8)(C), (9)(E), (10)(A) Advanced Quantitative Reasoning: (3)(B), (4)(S) Statistics: (3)(C)-(D), (6)(G)-(J), (7)(C)-(D)	Grades ~~6~~3 - 8: (3)(A) Aquatic Science: (3)(A) Astronomy: (3)(A) Biology: (3)(A) Chemistry: (3)(A) Earth and Space Science: (3)(A) Environmental Systems: (3)(A) Integrated Physics and Chemistry: (3)(A) Physics: (3)(A)	Accounting II: (2)(B); Applied Mathematics for Technical Professionals: (1)(B); Digital Electronics: (2)(B); Engineering Mathematics: (2)(B); Financial Mathematics: (2)(B); Manufacturing Engineering Technology II: (2)(B); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(B); Mathematics for Medical Professionals: (2)(B), (4)(B); Robotics II: (2)(B), (6)(B), (10)(F), (12)(E)-(F) Statistics and Business Decision Making: (2)(B), (4)(A)-(E), (5), (6)(C), (7)(B), (15)(B); Principles of Applied Engineering: (6)(C); Principles of Technology: (4)(A), (7)(A), Robotics II: (2)(B); Engineering Design and Problem Solving: (4)(A); Engineering Science: (4)(A); Biotechnology I: (4)(A); Biotechnology I: (4)(A); Scientific Research and Design: (4)(A); Diversified Manufacturing II: (6)(B); Precision Metal Manufacturing II: (7)(A); Small Engine Technology II: (6)(B)	Robotics Programming and Design: (1)(B), (2)(D), (2)(F), (4)(A), (4)(D), (7)(T)
B. Proportional [~~Logical~~] reasoning				
VII.[~~VIII.~~]B.1. Use proportional reasoning to solve problems that require fractions, ratios, percentages, decimals, and proportions in a variety of contexts using multiple representations. [~~Develop and evaluate convincing argument~~s.]	Kindergarten - Grade 12: (1)(G) Grade 6: (4)(B)-(D), (4)(G)-(H), (5)(A)-(B) Grade 7: (4)(A)-(E), (5)(A)-(C), (6)(C)-(G), (6)(I), (12)(C) Grade 8: (3)(A)-(C), (4)(A)-(B), (5)(A), (5)(E), (10)(D) Algebra I: (2)(D), (3)(A)-(B), (12)(C)-(D) Algebra II: (5)(B) Geometry: (2)(A)-(B), (4)(B)-(D), (5)(A), (5)(C)-(D), (6)(A)-(E), (7)(B), (8)(A), (9)(A)-(B), (12)(A)-(D)-(E) Precalculus: (4)(B), (4)(D)-(H), (5)(B), (5)(D), (5)(M) Mathematical Models with Applications: (3)(A)-(D), (4)(A)-(C), (5)(A)-(B), (6)(A)-(B), (6)(D)(7)(A)-(D), (8)(C), (9)(A)-(D), (9)(E), (10)(B) Advanced Quantitative Reasoning: (2)(B)-(C),	[~~Grades 6 – 8: (3)(A)~~] [~~Grade 8: (6)(A)-(C), (7)(A)-(C)~~] [~~Aquatic Science: (2)(F), (I),(3)(A)~~] [~~Astronomy: (3)(A)~~] [~~Biology: (3)(A)~~] [~~Chemistry: (3)(A), (6)(C), (8)(B)(C)(G), (9)(A), (10)(C)(D)(H), (11)(D)~~] [~~Earth and Space Science: (3)(A), (7)(B), (10)(D)~~] [~~Environmental Systems: (2)(F)(J), (3)(A), (7)(B)~~] [~~Integrated Physics and Chemistry: (2)(E), (3)(A),(4)(D) (3)(C), (6)(C)-(E), (7)(C)-(F)~~] [~~Physics: (2)(I) (J), (3)(A) (C)(4)(D), (5)(B)(C), (5)(F),(6)(A)(C), (7)(B), (8)(C)~~]	[~~Accounting II: (2)(G), (4)(I), (5)(L)-(N), (6)(H)~~] [~~Applied Mathematics for Technical Professionals: (1)(G)~~] [~~Biotechnology I: (7)(C), (8)(E)~~] [~~Biotechnology II:(6)(D)~~] [~~Digital Electronics: (2)(G), (9)(A)-(F), (9)(A)-(F), (10)(A)-(K), (11)(A)-(G), (12)(A)-(B), (12)(E), (12)(H)~~] [~~Engineering Mathematics: (2)(G), (6)(B)-(C), (7)(C), (9)(B)-(D), (10)(B), (10)(F)-(G), (10)(I), (10)(K), (11)(B)-(E)~~] [~~Engineering Science: (12)(E)~~] [~~Financial Mathematics: (2)(G)~~] [~~Manufacturing Engineering Technology II: (2)(G)~~] [~~Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(G), (4)(G), (5)(C)~~] [~~Mathematics for Medical Professionals: (1)(C), (2)(G)~~] [~~Principles of Technology: (12)(D), (13)(B)~~] [~~Robotics II: (2)(G), (6)(B), (7)(A)-(K), (8)(A)-(J), (10)(B)-(G)](10)(D), (10)(F)-(G)], (11)(C), (12)(E)-(G)~~]	Discrete Mathematics for Computer Science: (1)(A)-(B), (3)(A)-(B), (4)(AB)-(F), (4)(H), (4)(J), (4)(L)-(O), (6)(A)-(G), (6)(I), (6)(L)-(M) Robotics Programming and Design: (1)(G), (3)(D), (4)(A)-(E), (5)(A)-(G), (7)(B), (7)(H), (7)(M), (7)(P)

	(2)(E), (2)(G), (3)(B)-(H), (4)(G)-(L), (4)(O), (4)(Q) (4)(S) Discrete Mathematics for Problem Solving: (2)(K), (6)(H), (7)(A), (7)(G) Statistics: (6)(A)-(B), (6)(D), (6)(F), (6)(H)-(J) Algebraic Reasoning: (2)(A), (2)(B)	Grade 6: (6)(B), (8)(C) Grade 8: (6)(A) Chemistry: (6)(C), (8)(B)-(E), (9)(A), (10)(C)-(D), (10)(H), (11)(C)-(D) Integrated Physics and Chemistry: (4)(A), (4)(D), Physics: (2)(J), (3)(E), (4)(A)-(D), (5)(B)-(C), (5)(F), (6)(A)-(D), (7)(B), (7)(E), (8)(C)-(D) Aquatic Science: (2)(I), (4)(B-C), (5)(A), (6)(B), (7)(A), (8)(A), (11)(A), (12(A) Astronomy: (7)(B), (8)(B), (9)(C), (11)(C) Earth and Space Science: (2)(H), (5)(B), (7)(B), (10)(D) Environmental Systems: (2)(J), (7)(B)	[Scientific Research and Design: (6)(D)] [Small Engine Technology II: (6)(B)] [Statistics and Business Decision Making: (2)(G), (7)(B)] Accounting II: (4)(E), (4)(I), (6)(H) Biotechnology I: (8)(E) Biotechnology II: (8)(D)(8)(G), (12)(B) (13)(D), (14)(B) Engineering Mathematics: (3)(B), (5)(A)-(B), (10(D) Engineering Science: (12)(E) Principles of Technology: (12)(C)-(D) Scientific Research and Design: (4)(G),(8)(E), (8)(G) Small Engine Technology II: (6)(B) Statistics and Business Decision Making: (7)(B)	
[VII.[VIII.]B.2. Use various types of reasoning]	[Grade 6: (4)(B)] [Algebra I: (12)(C)-(D)] [Geometry: (4)(B)-(D), (5)(A), (5)(D), (6)(A)-(E), (8)(A), (12)(A), (12)(D)-(E)] [Precalculus: (5)(B), (5)(M)] [Mathematical Models with Applications: (3)(A)-(D), (4)(A)-(C), (6)(A), (9)(A)-(C), (9)(E)] [Advanced Quantitative Reasoning: (2)(B), (2)(E), (3)(B)-(H), (4)(G)-(L), (4)(O), (4)(O), (4)(S)] [Discrete Mathematics for Problem Solving: (2)(K), (6)(H), (7)(A), (7)(G)] [Statistics: (6)(A)-(B), (6)(F), (6)(H)-(J)] [Algebraic Reasoning: (2)(A)]	[Grades 6 - 8: (3)(A)] [Grade 8: (6)(A)-(C), (7)(A)-(C)] [Aquatic Science: (3)(A)] [Astronomy: (3)(A)] [Biology: (3)(A)] [Chemistry: (3)(A)-] [Earth and Space Science: (3)(A)] [Environmental Systems: (3)(A)] [Integrated Physics and Chemistry: (3)(A), (3)(C)] [Physics: (3)(A)]	Digital Electronics: (8)(A)-(F), (9)(A)-(F), (10)(A)-(K), (11)(A)-(G), (12)(A)-(B), (12)(E), (12)(H) Engineering Mathematics: (6)(B)-(C), (7)(C), (9)(B)-(D), (10)(B), (10)(F)-(G), (10)(I), (10)(K), (11)(B)-(E) Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(G); Mathematics for Medical Professionals: (1)(C); Robotics II: (6)(B), (7)(A)-(K), (8)(A)-(J), (10)(B)-(G), (11)(C), (12)(E)-(F) Principles of Technology: (12)(D), (13)(B) Engineering Science: (12)(E) Biotechnology I: (7)(C), (8)(E) Biotechnology II:(6)(D) Scientific Research and Design: (6)(D) Small Engine Technology II: (6)(B)	Discrete Mathematics for Computer Science: (1)(A)-(B), (3)(A)-(B), (4)(A)-(F), (4)(H), (4)(J), (4)(L)-(O), (6)(A)-(G), (6)(I), (6)(L)-(M) Robotics Programming and Design: (3)(D), (4)(A)-(E), (5)(A)-(G), (7)(B), (7)(H), (7)(M), (7)(P)
C. Logical reasoning [Real world problem solving]				
VII.[VIII.]C.1. Develop and evaluate convincing arguments. [Formulate a solution to a real world situation based on the solution to a mathematical problem.]	[Kindergarten - Grade 12: (1)(A)] [Grade 4: (10)(B)] [Grade 7: (4)(D), (5)(C), (10)(C), (13)(A), (13)(C)] [Grade 8: (8)(C)] [Algebra I: (5)(A)-(C), (8)(B), (9)(C), (9)(E)] [Algebra II: (5)(B)] [Precalculus: (5)(C), (5)(H)-(L), (5)(N)] [Mathematical Models with Applications: (2)(A)-(C), (5)(A)-(C), (6)(B)-(D), (7)(A), (10)(A)] [Advanced Quantitative Reasoning: (3)(A)-(H), (4)(L)-(O)] [Discrete Mathematics for Problem Solving: (2)(E)-(F), (2)(J)-(K), (3)(F), (4)(J), (5)(A)-(B), (5)(I), (6)(D), (6)(F), (6)(K)] [Statistics: (2)(A)-(F), (3)(A)-(B), (5)(C), (6)(C)-(G)] [Algebraic Reasoning: (2)(D), (3)(C)-(F), (5)(D)-(E), (6)(A)-(C), (7)(D)-(E)] Kindergarten - Grade 12: (1)(G) Geometry: (4)(B)-(D), (5)(A), (5)(C)-(D), (6)(A)-(E), (7)(B), (8)(A), (12)(A) Mathematical Models with Applications: (8)(C), (10)(B) Advanced Quantitative Reasoning: (2)(B), (2)(G), (4)(G), (4)(S)	[Grade 6: (6)(B), (8)(C)] [Grade 8: (6)(A)] [Aquatic Science: (2)(H)] [Astronomy: (2)(G)] [Biology: (2)(G)] [Chemistry: (2)(G)-(H)] [Earth and Space Science: (2)(G)-(H)] [Environmental Systems: (2)(I)-(J)] [Physics: (2)(L), (3)(F), (4)(D), (5)(B)-(C), (5)(F), (6)(A), (6)(C)] Grades 1 - 2: (2)(E) Grades 3: (2)(F), (3)(A) Grade 4: (2)(F), (3)(A) Grade 5: (2)(F), (3)(A) Grade 6 - 8: (2)(E), (3)(A) Aquatic Science: (2)(J), (3)(A) Astronomy: (2)(H), (3)(A) Biology: (2)(H), (3)(A) Chemistry: (2)(I), (3)(A) Earth and Space Science: (2)(I), (3)(A) Environmental Systems: (2)(K), (3)(A) Integrated Physics and Chemistry: (2)(E), (3)(A) Physics: (2)(I), (3)(A)-(C)	[Accounting II: (1)(B), (1)(E), (2)(A), (3)(C)-(D), (3)(F), (3)(I), (4)(C)-(G), (4)(I), (5)(B), (5)(D)-(F), (5)(I), (5)(K)-(P), (6)(D)(i)-(iii), (6)(E)(iii), (6)(E)(v)-(vi), (6)(G)(iii)-(iv), (6)(H), (6)(K)(i)-(iii), (6)(K)(vi)-(vii) ; Applied Mathematics for Technical Professionals: (1)(A), (2)(A), (2)(D), (2)(F)-(H), (3)(B)-(H), (4)(A), (4)(E)-(F), (5)(B), (5)(D)-(F), (6)(B) Digital Electronics: (2)(A); Engineering Mathematics: (2)(A), (3)(B)-(D), (4)(A)-(M), (5)(A)-(B), (6)(A)-(O), (7)(A), (7)(F)-(I), (8)(A), (8)(D), (8)(G)-(H), (8)(L)-(S), (9)(A), (9)(E)-(H), (10)(A)-(D), (10)(F)-(H), (10)(J), (10)(M)-(N), (11)(A)-(B), (11)(F); Financial Mathematics: (2)(A), (3)(C), (3)(F), (3)(H)-(L), (4)(A)-(C), (4)(E)-(I), (4)(K), (5)(B), (5)(E)-(F), (6)(A)-(E), (7)(A)-(G), (7)(I), (7)(K)-(L), (8)(A)-(F), (9)(A)-(D), (10)(A)-(F), (11)(A)-(D), (12)-(14), (15)(A), (15)(C), (17)(C), (17)(F)-(G); Manufacturing Engineering Technology II: (2)(A); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(A), (4)(A)-(F), (5)(F), (6)(A)-(B), (7)(A)-(C), (8)(A)-(B), (9)(A)-(B), (10)(A)-(B), (11)(A)-(C), (12)(A)-(C); Mathematics for Medical Professionals: (2)(A), (3)(A), (3)(C), (3)(E), (4)(A)-(B), (4)(D)-(F), (5)(C), (6)(F), (7)(A)-(D); Robotics II: (2)(A), (4)(A)-(B), (7)(A)-(K), (8)(A)-(J), (11)(D), (12)(A), (12)(D); Statistics and Business Decision Making: (2)(A), (6)(A), (6)(C), (7)(D), (10)(B), (11)(B), (12)-(13), (14)(A)-(C), (15)(A), (16)(B), (16)(D)-(H), (17)-(19), (20)(A)-(C), (21); Forestry and Woodland Ecosystems: (4)(A)(B)(D); Engineering Design and Problem Solving: (5)(K), (8)(A)-(I), (9)(A)-(I); Engineering Science: (6)(A), (15)(A)-(H), (16)(A)-(D); Principles of Manufacturing: (3)(C); Diversified Manufacturing I: (10)(C); Diversified Manufacturing II: (9)(A), (11)(C); Manufacturing Engineering Technology I: (3)(A); Metal Fabrication and Machining II: (3)(C), (8)(A); Precision Metal Manufacturing II: (11)(A)-(H), (12)(A)-(G); Precision Metal Manufacturing II Lab: (6)(A)-(H), (7)(A)-(G); Introduction to Welding: (5)(A); Small Engine Technology I: (5)(D), (6)(A)(C)-(E); Small Engine Technology II: (5)(C), (6)(B), (7)(E)-(G); Automotive Technology II: Business Information Management II: (8)(A-B)]	Discrete Mathematics for Computer Science: (1)(A)-(B), (3)(A)-(B), (4)(E)-(F), (4)(L)-(N), (6)(A)-(D), (6)(H)-(L) Robotics Programming and Design: (1)(A), (2)(A), (2)(C), (2)(E), (2)(H), (3)(A)-(B), (3)(D)-(E), (4)(C), (5)(A)-(G), (7)(E), (7)(P) Discrete Mathematics for Computer Science: (1)(A)-(B), (3)(A)-(B), (4)(B)-(F), (4)(H), (4)(J), (4)(L)-(O), (6)(A)-(G), (6)(I), (6)(M) Robotics Programming and Design: (1)(G)

			Accounting II: (2)(G), (4)(I), (5)(L)-(N), (6)(H)Applied Mathematics for Technical Professionals: (1)(G) Digital Electronics: (2)(G)Engineering Mathematics: (2)(G)Financial Mathematics: (2)(G)Manufacturing Engineering Technology II: (2)(G)Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(G), (5)(C) Mathematics for Medical Professionals: (2)(G)Robotics II: (2)(G), (10)(D), (10)(F)-(G), (12)(E)-(G)Statistics and Business Decision Making: (2)(G), (7)(B)	
VII.[~~VIII.~~]C.2. Understand attributes and relationships with inductive and deductive reasoning. [~~Use a function to model a real-world situation.~~]	[~~Kindergarten - Grade 12: (1)(A), (1)(D)~~] [~~Grade 4: (10)(B)~~] [~~Grade 7: (4)(D), (5)(C), (10)(C), (13)(A), (13)(C)~~] [~~Grade 8: (5)(D)-(E)~~] [~~Algebra I: (2)(D), (3)(B), (3)(G), (5)(A)-(C), (8)(B), (9)(B)-(C)~~] [~~Algebra II: (5)(B), (6)(H), (8)(B)~~] [~~Precalculus: (2)(N)-(P), (4)(G)-(H), (4)(J)-(K), (5)(H)~~] [~~Mathematical Models with Applications: (2)(A), (3)(A), (3)(C)-(D), (5)(A)-(C), (6)(A)-(D), (7)(A)~~] [~~Advanced Quantitative Reasoning: (2)(C)-(E), (3)(A)-(H)~~] [~~Statistics: (7)(B)-(D),~~] [~~Algebraic Reasoning: (2)(D), (3)(D)-(F), (5)(D)-(E), (6)(B), (7)(B), (7)(D)-(E)~~] Grade 6: (4)(B) Algebra I: (12)(C)-(D) Geometry: (4)(B)-(D), (5)(A), (5)(D), (6)(A)-(E), (8)(A), (12)(A), (12)(D)-(E) Precalculus: (5)(B), (5)(M) Mathematical Models with Applications: (3)(A)-(D), (4)(A)-(C), (6)(A), (9)(A)-(C), (9)(E) Advanced Quantitative Reasoning: (2)(B), (2)(E), (3)(B)-(H), (4)(G)-(L), (4)(O), (4)(Q), (4)(S) Discrete Mathematics for Problem Solving: (2)(K), (6)(H), (7)(A), (7)(G) Statistics: (6)(A)-(B), (6)(F), (6)(H)-(J) Algebraic Reasoning: (2)(A)	[~~Aquatic Science: (2)(H); Astronomy: (2)(G); Earth and Space Science: (2)(I); Environmental [Systems: (2)(I); Physics: (2)(L), (3)(F)~~] Kindergarten: (2)(E), (5)(A)-(B) Grade 1: (2)(E), (5)(A)-(C) Grade 2: (2)(E), (5)(A)-(D) Grade 3: (2)(F), (3)(A)-(B), (5)(A)-(D) Grade 4: (2)(F), (3)(A)-(B), (5)(A)-(B) Grade 5: (2)(F), (3)(A)-(B), (5)(A)-(C) Grades 6: (3)(A)-(C), (5)(C), (6)(A), (10)(B) Grade 7: (3)(A)-(C), (6) Grade 8: (3)(A)-(C), (6)(A)-(C), (6)(E), (7)(A)-(C) Aquatic Science: (3)(A) Astronomy: (3)(A) Biology: (3)(A), (3)(E) Chemistry: (3)(A) Earth and Space Science: (3)(A) Environmental Systems: (3)(A) Integrated Physics and Chemistry: (3)(A), (3)(C) Physics: (3)(A)	[~~Accounting II: (2)(A), (2)(D)Applied Mathematics for Technical Professionals: (1)(A), (1)(D), (2)(B), (2)(G)-(H), (5)(A), (5)(D)-(E), (6)(C)Digital Electronics: (2)(A), (2)(D), (7)(H), (7)(L)-(O), (8)(A)-(F), (9)(A)-(F), (10)(A)-(K), (11)(A)-(J), (12)(A)-(H)Engineering Mathematics: (2)(A), (2)(D), (6)(A)-(O), (7)(F), (9)(A), (9)(E)-(H), (11)(F)Financial Mathematics: (2)(A), (2)(D), (4)(F), (6)(C)-(D), (6)(F)Manufacturing Engineering Technology II: (2)(A), (2)(D)Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(A), (2)(D), (6)(B)Mathematics for Medical Professionals: (2)(A), (2)(D), (4)(A)-(C), (4)(E)Robotics II: (2)(A), (2)(D), (7)(H)-(K), (8)(A)-(J), (11)(B)Statistics and Business Decision Making: (2)(A), (2)(D), (20)(B)-(C), (21), (22) Engineering Science: (10)(G)-(H), (13)(A)-(E); (16)(C)-(D); Principles of Information Technology: (8)(C)~~] Digital Electronics: (8)(A)-(F), (9)(A)-(F), (10)(A)-(K), (11)(A)-(G), (12)(A)-(B), (12)(E), (12)(H) Engineering Mathematics: (6)(B)-(C), (7)(C), (9)(B)-(D), (10)(B), (10)(F)-(G), (10)(I), (10)(K), (11)(B)-(E) Mathematical Applications in Agriculture, Food, and Natural Resources: (4)(G); Mathematics for Medical Professionals: (1)(C); Robotics II: (6)(B), (7)(A)-(K), (8)(A)-(J), (10)(B)-(G), (11)(C), (12)(E)-(F) Principles of Technology: (12)(D), (13)(B) Engineering Science: (12)(E) Biotechnology I: (7)(C), (8)(E) Biotechnology II:(6)(D) Scientific Research and Design: (6)(D) Small Engine Technology II: (6)(B)	[~~Discrete Mathematics for Computer Science: (1)(A)-(B)Robotics Programming and Design: (1)(A), (1)(D), (4)(B)-(C), (5)(A)-(G), (7)(P)~~] Discrete Mathematics for Computer Science: (1)(A)-(B), (3)(A)-(B), (4)(A)-(F), (4)(H), (4)(J), (4)(L)-(O), (6)(A)-(G), (6)(I), (6)(L)-(M) Robotics Programming and Design: (3)(D), (4)(A)-(E), (5)(A)-(G), (7)(B), (7)(H), (7)(M), (7)(P)
[~~VIII.C.3. Evaluate the problem-solving process.~~]	[~~Kindergarten - Grade 12: (1)(B)~~] [~~Mathematical Models with Applications: (8)(C)~~] [~~Advanced Quantitative Reasoning: (3)(B), (4)(Q), (4)(S)~~] [~~Statistics: (2)(G), (3)(C)-(D), (6)(G)-(H), (7)(C)-(D)~~] [~~Algebraic Reasoning: (7)(C)~~]		[~~Accounting II: (2)(B); Applied Mathematics for Technical Professionals: (1)(B); Digital Electronics: (2)(B), (7)(M), (10)(J), (12)(B); Engineering Mathematics: (2)(B); Financial Mathematics: (2)(B), (6)(E); Manufacturing Engineering Technology II: (2)(B), (4)(B), (9)(C); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(B); Mathematics for Medical Professionals: (2)(B); Robotics II: (2)(B), (6)(B), (10)(C)-(G), (11)(C)-(D), (12)(E)-(F); Statistics and Business Decision Making: (2)(B), (4)(A)-(E), (5), (6)(C), (7)(B), (15)(B); Robotics I: (4)(C)-(D); Engineering Design and Problem Solving: (5)(K), (8)(A)-(I), (9)(A)-(I); Engineering Science: (6)(A), (15)(A)-(H), (16)(A)-(D); Diversified Manufacturing II: (9)(B), Precision Metal Manufacturing I: (3)(E); Precision Metal Manufacturing II: (13)(A)-(C); Small Engine Technology II: (6)(B); Automotive Technology II: Automotive Service: (2)(B)~~]	[~~Discrete Mathematics for Computer Science: (3)(A)-(B)~~ Robotics Programming and Design: (1)(B), (2)(D), (2)(F), (3)(F)-(H), (4)(A), (7)(T)

D. Real-world problem solving				
VII. [~~VIII.~~]D.1. Interpret results of the mathematical problem in terms of the original real-world situation.	Kindergarten - Grade 12: (1)(A) Grade 4: (10)(B) Grade 7: (4)(D), (5)(C), (10)(C), (13)(A), (13)(C) Grade 8: (8)(C) Algebra I: (5)(A)-(C), (8)(B), (9)(C), (9)(E) Algebra II: (5)(B) Precalculus: (5)(C), (5)(H)-(L), (5)(N) Mathematical Models with Applications: (2)(A)-(C), (5)(A)-(C), (6)(B)-(D), (7)(A), (10)(A) Advanced Quantitative Reasoning: (3)(A)-(H), (4)(L)-(O) Discrete Mathematics for Problem Solving: (2)(E)-(F), (2)(J)-(K), (3)(F), (4)(J), (5)(A)-(B), (5)(I), (6)(D), (6)(F), (6)(K) Statistics: (2)(A)-(F), (3)(A)-(B), (5)(C), (6)(C)-(G) Algebraic Reasoning: (2)(D), (3)(C)-(F), (5)(D)-(E), (6)(A)-(C), (7)(D)-(E)	Grade 6: (6)(B), (8)(C) Grade 8: (6)(A) Aquatic Science: (2)(H) Astronomy: (2)(G) Biology: (2)(G) Chemistry: (2)(G)-(H), (8)(G), (9)(A), (10)(H), (11)(D) Earth and Space Science: (2)(G)-(H) Environmental Systems: (2)(I)-(J) Integrated Physics and Chemistry: (4)(A), (4)(D), (5)(A)-(B)-(F), Physics: (2)(J), (3)(E), (4)(D), (5)(B)-(C), (5)(F), (6)(A), (6)(C)	Accounting II: (1)(B), (1)(E), (2)(A), (3)(C)-(D), (3)(F), (3)(I), (4)(C)-(G), (4)(I), (5)(B), (5)(D)-(F), (5)(I), (5)(K)-(P), (6)(D)(i)-(iii), (6)(E)(iii), (6)(E)(v)-(vi), (6)(G)(iii)-(iv), (6)(H), (6)(K)(i)-(iii), (6)(K)(vi)-(vii) ; Applied Mathematics for Technical Professionals: (1)(A), (2)(A), (2)(D), (2)(F)-(H), (3)(B)-(H), (4)(A), (4)(E)-(F), (5)(B), (5)(D)-(F), (6)(B) Digital Electronics: (2)(A); Engineering Mathematics: (2)(A), (3)(B)-(D), (4)(A)-(M), (5)(A)-(B), (6)(A)-(O), (7)(A), (7)(F)-(I), (8)(A), (8)(D), (8)(G)-(H), (8)(L)-(S), (9)(A), (9)(E)-(H), (10)(A)-(D), (10)(F)-(H), (10)(J), (10)(M)-(N), (11)(A)-(B), (11)(F); Financial Mathematics: (2)(A), (3)(C), (3)(F), (3)(H)-(L), (4)(A)-(C), (4)(E)-(I), (4)(K), (5)(B), (5)(E)-(F), (6)(A)-(E), (7)(A)-(G), (7)(I), (7)(K)-(L), (8)(A)-(F), (9)(A)-(D), (10)(A)-(F), (11)(A)-(D), (12)-(14), (15)(A), (15)(C), (17)(C), (17)(F)-(G); Manufacturing Engineering Technology II: (2)(A); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(A), (4)(A)-(F), (5)(F), (6)(A)-(B), (7)(A)-(C), (8)(A)-(B), (9)(A)-(B), (10)(A)-(B), (11)(A)-(C), (12)(A)-(C); Mathematics for Medical Professionals: (2)(A), (3)(A), (3)(C), (3)(E), (4)(A)-(B), (4)(D)-(F), (5)(C), (6)(F), (7)(A)-(D); Robotics II: (2)(A), (4)(A)-(B), (7)(A)-(K), (8)(A)-(J), (11)(D), (12)(A), (12)(D); Statistics and Business Decision Making: (2)(A), (6)(A), (6)(C), (7)(D), (10)(B), (11)(B), (12)-(13), (14)(A)-(C), (15)(A), (16)(B), (16)(D)-(H), (17)-(19), (20)(A)-(C), (21); Forestry and Woodland Ecosystems: (4)(A)(B)(D); Engineering Design and Problem Solving: (5)(K), (8)(A)-(I), (9)(A)-(I); Engineering Science: (6)(A), (15)(A)-(H), (16)(A)-(D); Principles of Manufacturing: (3)(C); Diversified Manufacturing I: (10)(C); Diversified Manufacturing II: (9)(A), (11)(C); Manufacturing Engineering Technology I: (3)(A); Metal Fabrication and Machining II: (3)(C), (8)(A); Precision Metal Manufacturing II: (11)(A)-(H), (12)(A)-(G); Precision Metal Manufacturing II Lab: (6)(A)-(H), (7)(A)-(G); Introduction to Welding: (5)(A); Small Engine Technology I: (5)(D), (6)(A)(C)-(E); Small Engine Technology II: (5)(C), (6)(B), (7)(E)-(G); Automotive Technology II: Business Information Management II: (8)(A-B)	Discrete Mathematics for Computer Science: (1)(A)-(B), (3)(A)-(B), (4)(E)-(F), (4)(L)-(N), (6)(A)-(D), (6)(H)-(L) Robotics Programming and Design: (1)(A), (2)(A), (2)(C), (2)(E), (2)(H), (3)(A)-(B), (3)(D)-(E), (4)(C), (5)(A)-(G), (7)(E), (7)(P)
VII. [~~VIII.~~]D.2. Evaluate the problem-solving process.	Kindergarten - Grade 12: (1)(B) Mathematical Models with Applications: (8)(C) Advanced Quantitative Reasoning: (3)(B), (4)(Q), (4)(S) Statistics: (2)(G), (3)(C)-(D), (6)(G)-(H), (7)(C)-(D) Algebraic Reasoning: (7)(C)		Accounting II: (2)(B); Applied Mathematics for Technical Professionals: (1)(B); Digital Electronics: (2)(B), (7)(M), (10)(J), (12)(B); Engineering Mathematics: (2)(B); Financial Mathematics: (2)(B), (6)(E); Manufacturing Engineering Technology II: (2)(B), (4)(B), (9)(C); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(B); Mathematics for Medical Professionals: (2)(B); Robotics II: (2)(B), (6)(B), (10)(C)-(G), (11)(C)-(D), (12)(E)-(F); Statistics and Business Decision Making: (2)(B), (4)(A)-(E), (5), (6)(C), (7)(B), (15)(B); Robotics I: (4)(C)-(D); Engineering Design and Problem Solving: (5)(K), (8)(A)-(I), (9)(A)-(I); Engineering Science: (6)(A), (15)(A)-(H), (16)(A)-(D); Diversified Manufacturing II: (9)(B), Precision Metal Manufacturing I: (3)(E); Precision Metal Manufacturing II: (13)(A)-(C); Small Engine Technology II: (6)(B); Automotive Technology II: Automotive Service: (2)(B)	Discrete Mathematics for Computer Science: (3)(A)-(B) Robotics Programming and Design: (1)(B), (2)(D), (2)(F), (3)(F)-(H), (4)(A), (7)(T)
VIII. [~~IX.~~] Communication and Representation				
A. Language, terms, and symbols of mathematics				
VIII. [~~IX.~~] A.1. Use mathematical symbols, terminology, and notation to represent given and unknown information in a problem.	Kindergarten - Grade 12: (1)(D), (1)(F) Grade 1: (5)(D), (5)(F) Grade 2: (7)(C) Grade 4: (5)(A), (7)(E) Grade 5: (4)(B) Grade 6: (8)(C), (9)(A), (10)(A) Grade 7: (8)(A), (10)(A)-(C), (11)(A), (11)(C) Grade 8: (8)(A)-(C) Algebra I: (2)(A)-(I), (5)(A)-(C), (6)(C), (9)(B)-(C) Algebra II: (3)(A), (3)(E), (4)(E), (5)(B), (6)(D), (6)(H), (6)(L) Geometry: (6)(A)-(D) Precalculus: (5)(B), (5)(D), (5)(H)-(I), (5)(N) Mathematical Models with Applications: (2)(A)-(C), (5)(A)-(C), (6)(B)-(D), (7)(A), (7)(C), (10)(A) Advanced Quantitative Reasoning: (2)(C)-(E), (2)(H), (3)(A)-(H) Discrete Mathematics for Problem Solving: (2)(B)-(K), (3)(A)-(G), (5)(A)-(B), (7)(A)-(B), (7)(E)-(G) Statistics: (3)(B), (4)(B), (4)(F), (5)(A), (5)(C), (6)(C)-(D), (6)(G), (7)(B)-(D) Algebraic Reasoning: (2)(C)-(D), (3)(D)-(F), (5)(D)-(E), (6)(B), (7)(B)-(E)	Grade 6: (6)(B), (8)(C) Grade 8: (6)(A) Aquatic Science: (2)(I) Earth and Space Science: (2)(H) Integrated Physics and Chemistry: (4)(A)-(F), (5)(A)-(B), (5)(G) Chemistry: (2)(G), (6)(B), (9)(A), (11)(D) Physics: (3)(~~FE~~), (4)(B)-(D), [(4)(E),] (5)(B)-(C), (5)(F), (6)(C)-(D), (7)(B)	Accounting II: (1)(A), (2)(D), (2)(F); Applied Mathematics for Technical Professionals: (1)(D), (1)(F), (2)(B)-(E), (2)(G)-(H), (3)(A), (3)(E), (3)(K), (5)(A), (5)(D)-(E), (6)(A), (6)(C)-(D), (7)(E); Digital Electronics: (1)(C), (2)(D), (2)(F), (7)(L), (7)(N)-(O), (8)(B)-(F), (9)(A)-(E), (10)(A)-(I), (11)(A)-(H), (11)(J), (12)(A)-(B); Engineering Mathematics: (1)(C), (2)(D), (2)(F), (3)(A)-(D), (4)(A)-(M), (5)(A)-(B), (6)(A), (6)(E)-(F), (6)(I), (6)(M), (8)(M), (8)(R), (9)(A), (9)(E), (9)(H); Financial Mathematics: (1)(A), (2)(D), (2)(F) Manufacturing Engineering Technology II: (1)(F), (2)(D), (2)(F); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(D), (2)(F), (4)(B), (4)(F), (5)(D), (6)(D); Mathematics for Medical Professionals: (1)(A), (2)(D), (2)(F), (3)(C), (4)(A)-(F), (7)(A)-(C); Robotics II: (1)(J), (2)(D), (2)(F), (10)(D)-(E), (12)(G); Statistics and Business Decision Making: (1)(A), (2)(D), (2)(F), (7)(A), (20)(B)-(C), (21), (22)(A)-(D); Engineering Science: (15)(A)-(H), (16)(A)-(D); Precision Metal Manufacturing II Lab: (6)(D)-(H)	Discrete Mathematics for Problem-Solving: (1)(A)-(B), (2)(A), (3)(A)-(B), (4)(A)-(F), (4)(H), (4)(J)-(O), (6)(A)-(C), (6)(H)-(L) Robotics Programming and Design: (1)(D), (1)(F), (3)(D)-(E), (3)(H)
VIII. [~~IX.~~] A.2. Use mathematical language to represent and communicate the mathematical concepts in a problem.	Kindergarten - Grade 12: (1)(D), (1)(F) Kindergarten: (3)(C) Grade 1: (3)(E) Grade 2: (3)(B), (6)(A)-(B) Grade 6: (9)(C) Grade 7: (8)(B) Grade 8: (8)(B) Algebra I: (3)(C), (7)(A), (9)(B) Algebra II: (2)(A), (2)(C) Geometry: (4)(A), (12)(D) Mathematical Models with Applications: (2)(A)-(C), (5)(A)-(C), (6)(B)-(D), (7)(A), (7)(C), (9)(D)	Grade 6: (6)(B), 8(C) Grade 8: (6)(B) Aquatic Science: (2)(J) Earth and Space Science: (2)(H) Environmental Systems: (2)(K) Integrated Physics and Chemistry: (2)(E) Physics: (2)(~~LJ~~), (3)(~~FE~~)	Accounting II: (1)(C), (2)(D), (2)(F), (3)(B), (3)(E)-(H), (4)(A)-(C), (4)(H)-(I), (5)(B), (5)(G)-(J), (5)(L)-(N), (5)(P), (6)(A)-(C), (6)(E)-(J), (6)(L)-(R)Applied Mathematics for Technical Professionals: (1)(D), (1)(F), (6)(D), (7)(D)-(E) Digital Electronics: (1)(C), (2)(D), (2)(F), (7)(L), (8)(B), (12)(A)-(B)Engineering Mathematics: (1)(C), (2)(D), (2)(F), (3)(A), (7)(B)-(E), (8)(B)-(C), (8)(E)-(F), (8)(K), (10)(L)Financial Mathematics: (1)(A), (2)(D), 2(F), (15)(A)Manufacturing Engineering Technology II: (1)(F), (2)(D), (2)(F)Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(D), (2)(F), (5)(D), (6)(D)Mathematics for Medical Professionals: (1)(A), (2)(D), (2)(F), (3)(C), (4)(A)-(F), (6)(A)-(E), (6)(H)-(K), (7)(D)Robotics II: (1)(J), (2)(D), (2)(F), (10)(D)-(E), (12)(G)Statistics and Business Decision Making: (1)(A), (2)(D), (2)(F), (7)(A)-(B), (8)(A)-(E), (10)(A)-(C), (11)(A)-(B), (12)-(13), (15)(B), (16)(A), (16)(C), (16)(E), (16)(G)-(H), (17), (20)(A)Principles of Technology: (4)(F); Engineering Design and Problem Solving:	Discrete Mathematics for Problem-Solving: (1)(A)-(B), (4)(A)-(F), (4)(H), (4)(J)-(O), (6)(H)-(K)Robotics Programming and Design: (1)(D), (1)(F), (3)(D)-(E), (3)(H)

	Advanced Quantitative Reasoning: (2)(H), (4)(R), (4)(T) Discrete Mathematics for Problem Solving: (2)(A), (2)(L), (3)(A)-(G), (4)(B), (4)(D)-(I), (5)(C), (5)(E)-(K), (6)(C), (6)(E), (6)(H)-(J), (7)(D)-(G) Statistics: (2)(F), (3)(C)-(D), (4)(C)-(F), (5)(B), (5)(D), (6)(A)-(B), (6)(F), (6)(H), (6)(J), (7)(E) Algebraic Reasoning: (3)(A)-(B), (3)(F), (4)(A)-(B), (7)(B)		(5)(A)-(K); Engineering Science: (10)(A)-(J); (12)(A)-(E); Biotechnology II:(4)(G); Scientific Research and Design: (4)(G); Principles of Information Technology: (9)(F); Diversified Manufacturing II: (9)(A)	
VIII. [~~IX.~~] A.3. Use mathematical [~~mathematics as a~~] language for reasoning, problem solving, making connections, and generalizing.	Kindergarten - Grade 12: (1)(D), (1)(F)-(G) Grade 6: (4)(C)-(D), (8)(A) Grade 7: (8)(A)-(C) Grade 8: (8)(A)-(C) Algebra I: (2)(A)-(D), (4)(C), (5)(A)-(C), (8)(B), (9)(C), (9)(E) Algebra II: (3)(A), (3)(E), (4)(E), (5)(B), (6)(L) Geometry: (6)(A)-(B), (6)(D)-(E), (7)(A)-(B), (8)(A)-(B), (9)(A)-(B), (10)(B) Precalculus: (2)(D), (3)(C), (4)(D), (5)(D), (5)(H)-(L), (5)(N) Mathematical Models with Applications: (2)(A)-(C), (3)(A), (3)(C)-(D), (5)(B)-(D), (7)(A), (7)(C), (9)(A)-(B), (9)(D)-(E) Advanced Quantitative Reasoning: (2)(B), (2)(G)-(H), (4)(G)-(T) Discrete Mathematics for Problem Solving: (3)(A), (3)(E)-(G), (4)(A)-(I), (5)(A)-(K), (6)(A)-(I), (6)(K), (7)(D)-(G) Statistics: (2)(F), (3)(C)-(D), (4)(C)-(F), (5)(D), (6)(A)-(B), (6)(E)-(F), (6)(H)-(J), (7)(C)-(F) Algebraic Reasoning: (2)(A), (3)(C)-(F), (4)(A)-(B), (5)(D)-(E), (7)(B)-(E)	Grade 6: (6)(B), (8)(C) Grade 8: (6)(B)-(C) Integrated Physics and Chemistry: (2)(E), (4)(F), (5)(A)-(I), [~~(6)(A),~~] (6)(C)-~~(D)~~ [~~(E)~~], [~~(7)(D)~~] 7(E)-(F) Physics: (2)(~~L~~J), (3)(~~FE~~), (4)(B)-(~~DC~~), ~~(4)(E)-(F),~~ (5)(A)-(C), ~~(5)(G)-(H),~~ (6)(D)-~~(G),~~ (7)(A)-(C), (7)(E)-~~(F)~~, (8)(A)-(C)	Accounting II: (1)(A), (2)(D), (2)(F)-(G), (3)(B), (3)(E)-(F),(4)(C), (4)(H)-(I), (5)(B), (5)(L)-(N), (5)(P), (6)(E)(i)-(vi), (6)(G)(i)-(iv), (6)(R)(iv)-(v); Applied Mathematics for Technical Professionals: (1)(D), (1)(F)-(G), (2)(B)-(E), (2)(G)-(H), (3)(A), (3)(E), (3)(K), (5)(A), (5)(D)-(E), (6)(A), (6)(C)-(D), (7)(E); Digital Electronics: (1)(C), (2)(D), (2)(F)-(G), (7)(L), (8)(B), (12)(A)-(B); Engineering Mathematics: (1)(C), (2)(D), (2)(F)-(G), (3)(A)-(D), (4)(A)-(M), (5)(A)-(B), (6)(A)-(O), (7)(A), (7)(F)-(I), (8)(A), (8)(D), (8)(G)-(H), (8)(M)-(S), (9)(A), (9)(E)-(H), (10)(A)-(D), (10)(F)-(H), (10)(J), (10)(M)-(N), (11)(B), (11)(F); Financial Mathematics: (1)(A), (2)(D), (2)(F)-(G), (3)(C), (3)(F)-(L), (4)(A)-(C), (4)(F)-(I), (4)(K), (5)(C)-(E), (6)(B)-(F), (6)(I), (7)(A)-(G), (8)(A)-(F), (9)(B), (10)(A)-(C), (11)(B)-(D), (12), (15)(A), (17)(C), (17)(F)-(G); Manufacturing Engineering Technology II: (1)(F), (2)(D), (2)(F)-(G); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(D), (2)(F)-(G), (4)(B), (4)(G), (5)-(12); Mathematics for Medical Professionals: (1)(A), (2)(D), (2)(F)-(G), (3)(A), (3)(C), (4)(A)-(F), (5)(C), (6)(C)-(G), (7)(A)-(D); Robotics II: (1)(J), (2)(D), (2)(F), (6)(A)-(D), (7)(A)-(K), (8)(A)-(J), (9)(A)-(C), (10)(D)-(E), (11)(C)-(D), (12)(E)-(G); Statistics and Business Decision Making: (1)(A), (2)(D), (2)(F)-(G), (6)(A), (6)(C), (7)(A), (7)(D), (9), (10)(A)-(C), (12)-(13), (16)(A), (16)(C), (16)(E), (16)(G)-(H), (17)-(19), (20)(A); Principles of Technology: (4)(F); Engineering Design and Problem Solving: (5)(A)-(K); Engineering Science: (10)(A)-(J); (12)(A)-(E); Biotechnology II:(4)(G); Scientific Research and Design: (4)(G); Precision Metal Manufacturing II: (11)(D)-(H), (12)(D)-(G); Precision Metal Manufacturing II Lab: (6)(D)-(H), (7)(D)-(G); Food Science: (8)(C)	Discrete Mathematics for Problem-Solving: (1)(A)-(B), (2)(A), (3)(A)-(B), (4)(A)-(F), (4)(H), (4)(J)-(O), (6)(A)-(D), (6)(G) Robotics Programming and Design: (1)(D), (1)(F)-(G), (3)(E), (3)(H), (4)(A)-(E), (5)(A)-(G), (7)(C)-(T)
B. Interpretation of mathematical work				
VIII. [~~IX.~~] B.1. Model and interpret mathematical ideas and concepts using multiple representations.	Kindergarten - Grade 12: (1)(D)-(G) Kindergarten: (3)(A) Grade 1: (2)(B)-(C), (3)(A), (3)(E), (6)(G)-(H) Grade 2: (2)(A)-(B), (3)(A), (3)(C), (6)(A)-(B), (9)(A), (9)(F) Grade 3: (3)(A)-(B), (3)(E)-(F), (5)(A), (7)(A) Grade 4: (2)(B), (2)(E), (3)(A)-(B), (3)(E), (3)(G), (4)(C), (4)(E), (5)(C) Grade 5: (3)(D), (3)(F), (3)(H)-(J), (4)(B), (4)(G)-(H), (6)(A)-(B) Grade 6: (3)(C), (4)(E)-(F), (7)(C), (8)(B), (9)(B), (10)(A) Grade 7: (7), (8)(A), (8)(C), (11)(A) Grade 8: (5)(A)-(B), (5)(I) Algebra I: (2)(A)-(I), (7)(A), (9)(D), (12)(C)-(D) Algebra II: (2)(A), (8)(A) Precalculus: (2)(F), (2)(I)-(M), (3)(A), (3)(D)-(E), (4)(A)-(C), (4)(J), (5)(B) Mathematical Models with Applications: (3)(A), (3)(C)-(D), (7)(A), (7)(C), (10)(B) Advanced Quantitative Reasoning: (2)(H), (3)(A)-(H), (4)(P)-(R), (4)(T) Discrete Mathematics for Problem Solving: (2)(A)-(L), (3)(A)-(G), (6)(B)-(C), (7)(G) Statistics: (2)(E), (3)(B), (3)(D), (4)(A)-(C), (5)(A), (7)(B) Algebraic Reasoning: (2)(A)-(D), (3)(C)-(F), (4)(A)-(D), (6)(A), (7)(B), (7)(D)-(E)	Grade 6: (8)(D) Grade 8: (6)(A), (6)(C), (7)(A), ~~(8)(D)~~ Environmental Systems: (2)(I) Physics: (2)~~(J)-(L)~~(I)-(J), (3)(F), (4)(A), ~~(4)(E)-(F)~~	Accounting II: (1)(A), (2)(D)-(G), (4)(I); Applied Mathematics for Technical Professionals: (1)(D)-(G), (2)(A), (2)(C), (2)(G)-(H), (3)(I)-(J), (4)(D), (5)(A), (5)(D)-(E), (6)(A), (6)(C)-(D), (7)(D); Digital Electronics: (1)(C), (2)(D)-(G), (7)(L), (8)(B), (12)(A)-(B); Engineering Mathematics: (1)(C), (2)(D)-(G), (3)(B), (4)(C), (4)(G), (11)(C)-(D); Financial Mathematics: (1)(A), (2)(D)-(G), (6)(C), (6)(F), (7)(A)-(B), (8)(A), (11)(B), (12), (17)(F); Manufacturing Engineering Technology II: (1)(F), (2)(D)-(G) Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(D)-(G), (4)(G), (5)(D), (5)(F), (6)(B), (6)(D), (7)(B), (7)(D), (8)(A), (8)(C), (9)(A), (9)(C), (10)(A), (10)(C), (11)(B), (12)(B); Mathematics for Medical Professionals: (1)(A), (2)(D)-(G), (4)(A)-(C), (4)(E); Robotics II: (1)(J), (2)(D)-(G), (10)(D)-(E), (11)(D), (12)(G); Statistics and Business Decision Making: (1)(A), (2)(D)-(G), (9), (12)-(13), (20)(B), (21); Principles of Technology: (4)(F); Engineering Design and Problem Solving: (5)(A)-(K); Engineering Science: (10)(A)-(J); (12)(A)-(E); Biotechnology II:(4)(G); Scientific Research and Design: (4)(G); Precision Metal Manufacturing I: (3)(D); Welding I: (5)(B); Small Engine Technology II: (7)(D); Food Science: (8)(C)	Discrete Mathematics for Problem-Solving: (1)(A)-(B), (3)(A)-(B), (4)(A), (6)(L)-(M) Robotics Programming and Design: (1)(D)-(G), (3)(D)-(E), (3)(H), (7)(C)

VIII. [~~IX.~~] B.2. Summarize and interpret mathematical information provided orally, visually, or in written form within the given context.	Kindergarten - Grade 12: (1)(D)-(E), (1)(G) Kindergarten: (8)(C) Grade 3: (8)(A) Grade 4: (5)(A), (9)(A)Grade 5: (4)(E), (8)(A)-(B) Grade 6: (12)(B)-(D), (13)(A) Grade 7: (6)(F), (12)(B) Grade 8: (8)(B) Algebra I: (2)(A), (9)(B) Algebra II: (3)(D), (4)(G), (5)(E), (8)(A) Geometry: (6)(A), (6)(D)-(E), (7)(B), (8)(A) Precalculus: (4)(I)-(K), (5)(C), (5)(K)-(L) Mathematical Models with Applications: (2)(A)-(C), (8)(C), (10)(B) Advanced Quantitative Reasoning: (2)(F), (2)(H), (3)(B)-(H), (4)(P)-(R), (4)(T) Discrete Mathematics for Problem Solving: (2)(A)-(L), (3)(A)-(C), (3)(G), (4)(B), (4)(D), (4)(F), (4)(H), (5)(C), (5)(E), (5)(G)-(K), (6)(E), (6)(H)-(K), (7)(A)-(C), (7)(E)-(G) Statistics: (2)(F)-(G), (3)(A), (3)(C)-(D), (4)(C)-(F), (5)(D), (6)(E)-(F), (6)(H)-(I), (7)(F) Algebraic Reasoning: (2)(A)-(D), (3)(A)-(B), (3)(F), (4)(B), (7)(B)	Aquatic Science: (2)(J) Astronomy: (2)(H) Biology: (2)(H) Chemistry: (2)(I) Earth and Space Science: (2)(I) Environmental Systems: (2)(K) Integrated Physics and Chemistry: (2)(E), ~~(7)(D),~~ (7)(F) Physics: (2)(~~K~~I)-(~~L~~J), (3)(A)-(B), (3)(~~F~~E), (4)(A)-(C), ~~(4)(E),~~ (5)(A)-(D), ~~(5)(G)-(H),~~ (6)(D)~~-(G),~~ (7)(A)-(C), (7)(E)~~-(F),~~ (8)(A)-(D)	Accounting II: (1)(A), (2)(D)-(E), (2)(G), (3)(E)-(I), (4)(A)-(I), (5)(A)-(B), (5)(F)-(J), (5)(L)-(P), (6)(C)-(H), (6)(J)-(M), (6)(R)(i)-(vi); Applied Mathematics for Technical Professionals: (1)(D)-(E), (1)(G), (2)(B), (2)(H), (3)(F), (3)(K), (5)(A), (5)(C)-(D), (6)(C)-(D), (7)(D)-(E); Digital Electronics (1)(C), (2)(D)-(E), (2)(G); Engineering Mathematics: (1)(C), (2)(D)-(E), (2)(G), (3)(A), (7)(B)-(E), (8)(B)-(C), (8)(E)-(F), (8)(K), (9)(B)-(C), (10)(B), (10)(F)-(G), (10)(K)-(L); Financial Mathematics: (1)(A), (2)(D)-(E), (2)(G), (3)(D), (3)(J), (5)(D)-(E), (6)(C), (6)(F), (7)(A), (8)(A), (11)(B), (12), (17)(F); Manufacturing Engineering Technology II: (1)(F), (2)(D)-(E), (2)(G); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(D)-(E), (2)(G), (4)(G), (5)(C)-(E), (6)(C)-(D), (7)(D), (8)(C), (9)(C), (10)(C), (11)(C)-(D), (12)(D); Mathematics for Medical Professionals: (1)(A), (2)(D)-(E), (2)(G), (3)(A), (3)(C)-(D), (3)(F), (4)(A)-(F), (5)(A), (5)(D), (6)(A)-(I); Robotics II: (2)(D)-(E), (2)(G), (10)(D)-(E), (11)(D), (12)G); Statistics and Business Decision Making: (1)(A), (2)(D)-(E), (2)(G), (4)(A)-(E), (5), (6)(C), (7)(A)-(B), (9), (10)(A)-(C), (12)-(13), (14)(A)-(C), (15)(A), (16)(B), (16)(E)-(H), (17)-(19), (20)(A)-(C), (21); Basic Collision Repair and Refinishing: (2)(C); Collision Repair: (2)(B); Paint and Refinishing: (2)(C); Diesel Equipment Technology: (3)(C), (5)(E); Principles of Technology: (1)(C), (3)(K)-(L); Engineering Design and Problem Solving: (1)(C), (6)(A)-(F); Engineering Sciences: (1)(C), (3)(F), (3)(H); Biotechnology I: (1)(C), (3)(J); Biotechnology II: (1)(C), (3)(J), (10)(A); Scientific Research & Design: (1)(C), (10)(A); Diversified Manufacturing I: (2)(B); Diversified Manufacturing II: (2)(B), (2)(D); Manufacturing Engineering Technology I: (2)(B); Metal Fabrication and Machining I: (2)(B); Metal Fabrication and Machining II: (3)(D), (8)(C); Precision Metal Manufacturing I: (3)(C); Precision Metal Manufacturing II: (13)(A)-(C); Welding I: (5)(C); Welding II: (5)(B); Small Engine Technology I: (5)(D); Small Engine Technology II: (6)(B)	Discrete Mathematics for Problem-Solving: (3)(A)-(B)Robotics Programming and Design: (1)(D)-(E), (1)(G), (3)(D)-(E), (3)(H), (7)(C)
C. Presentation and representation of mathematical work				
VIII. [~~IX.~~] C.1. Communicate mathematical ideas, reasoning, and their implications using symbols, diagrams, models, graphs, and words.	Kindergarten - Grade 12: (1)(D)-(F) Kindergarten: (8)(C) Grade 1: (3)(A), (3)(E), (6)(G)-(H), (8)(A)-(C) Grade 2: (3)(B), (6)(A)-(B), (7)(C) Grade 3: (3)(A), (3)(C), (3)(H), (4)(D)-(E), (4)(H), (5)(A)-(B), (5)(E) Grade 4: (3)(B)-(C), (5)(A)-(B) Grade 5: (2)(B), (4)(B)-(C) Grade 6: (5)(A), (6)(C), (7)(A), (7)(D), (8)(C), (9)(A)-(C) Grade 7: (4)(A), (7), (8)(B), (10)(A)-(C), (11)(C) Grade 8: (4)(B), (5)(A)-(B), (5)(D)-(E), (5)(I), (6)(B), (8)(A)-(C), (9), (11)(C) Algebra I: (2)(B)-(J), (3)(C)-(D), (3)(F), (3)(H), (4)(C), (7)(A)-(B), (8)(B), (9)(B)-(E), (12)(A) Algebra II: (2)(A)-(C), (3)(A), (3)(E), (4)(A)-(B), (4)(E), (5)(B), (6)(D), (6)(H), (6)(L), (8)(B) Geometry: (4)(A)-(D), (5)(B)-(C), (6)(A)-(B), (6)(D)-(E), (8)(A)-(B), (12)(D) Precalculus: (2)(D), (2)(F)-(K), (2)(M)-(N), (3)(A), (3)(D)-(E), (4)(B), (4)(J), (5)(C), (5)(H)-(I) Mathematical Models with Applications: (2)(A)-(C), (3)(A), (3)(C)-(D), (5)(A)-(C), (7)(A), (7)(C), (10)(B) Advanced Quantitative Reasoning: (2)(F), (2)(H), (3)(A), (3)(F)-(H), (4)(P), (4)(R)-(T) Discrete Mathematics for Problem Solving: (2)(A)-(B), (2)(D)-(I), (2)(J)-(K), (3)(A)-(C), (5)(B), (6)(B), (6)(G)-(H), (7)(D), (7)(G) Statistics: (2)(A)-(D), (2)(F)-(G), (4)(B), (5)(C), (6)(E), (6)(G), (7)(F), Algebraic Reasoning: (2)(A)-(D), (3)(D)-(E), (4)(A)-(D), (7)(A)-(E)	Grade 6: (8)(D) [~~Grade 7: (7)(A)~~] Grade 8: (6)(A), (6)(C), (7)(A) [~~, (8)(D)~~] Aquatic Science: (2)(J) Astronomy: (2)(H) Biology: (2)(H) Chemistry: (2)(I) Earth and Space Science: (2)(I) Environmental Systems: (2)(K) Integrated Physics and Chemistry: (2)(E), (3)(B) Physics: (2)(H)-(J), (3)(A)-(B), (3)(E), (4)(A)-(C), (5)(A)-(D), (6)(D), (7)(A)-(C), (7)(E), (8)(A)-(D) [~~Physics: (2)(I)-(L), (3)(A)-(D), (3)(F), (4)(A)-(C), (4)(E), (5)(A)-(D), (5)(G)-(H), (6)(D)-(G), (7)(A)-(C), (7)(E)-(F), (8)(A)-(D)~~]	Accounting II: (1)(A), (2)(D)-(F), (3)(B), (3)(E)-(G), (4)(C), (4)(H)-(I), (5)(B), (5)(L)-(P), (6)(E)(i)-(vi), (6)(G)(i)-(iv), (6)(R)(iv)-(v); Applied Mathematics for Technical Professionals: (1)(D)-(F), (2)(B)-(C), (2)(E), (2)(H), (3)(I)-(K), (4)(D), (4)(I), (5)(A), (5)(D)-(E), (6)(A), (6)(C)-(D), (7)(D)-(E); Digital Electronics: (1)(C), (2)(D)-(F), (7)(L), (8)(B), (12)(A)-(B); Engineering Mathematics: (1)(C), (2)(D)-(F), (4)(C), (4)(G), (4)(I), (5)(B), (6)(A), (6)(J)-(O), (7)(B), (7)(G), (7)(K), (9)(D), (11)(C)-(D); Financial Mathematics: (1)(A), (2)(D)-(F), (3)(G), (3)(J)-(L), (4)(D)-(F), (4)(K)-(L), (5)(A)-(F), (6)(A), (6)(C)-(G), (6)(I), (7)(A)-(C), (7)(E), (7)(H)-(I), (7)(K)-(L), (8)(A)-(D), (9)(A)-(D), (10)(A), (10)(E)-(G), (11)(A)-(B), (12)-(14), (15)(C), (17)(D)-(G); Manufacturing Engineering Technology II: (1)(F), (2)(D)-(F), (8)(C); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(D)-(F), (4)(G), (5)(B)-(D), (6)(C)-(D), (7)(C), (8)(C), (9)(C), (10)(C), (11)(C), (12)(D); Mathematics for Medical Professionals: (1)(A), (2)(D)-(F), (4)(A)-(E); Robotics II: (1)(J), (2)(D)-(F), (8)(A), (8)(D), (10)(D)-(E), (11)(D), (12)(G); Statistics and Business Decision Making: (1)(A), (2)(D)-(F), (7)(A)-(B), (7)(D), (9), (10)(A)-(C), (12)-(13), (16)(A), (16)(C), (16)(E), (16)(G)-(H), (20)(B)-(C), (21); Basic Collision Repair and Refinishing: (2)(B); Collision Repair: (2)(B); Paint and Refinishing: (2)(B); Principles of Technology: (1)(C), (3)(K)-(L); Engineering Design and Problem Solving: (1)(C), (6)(A)-(F); Engineering Science: (1)(C), (3)(F), (3)(H); Biotechnology I: (1)(C), (3)(J); Biotechnology II: (1)(C), (3)(J), (10)(A); Scientific Research & Design: (1)(C), (10)(A), Principles of Information Technology: (9)(E)	Discrete Mathematics for Problem-Solving: (2)(A), (2)(D), (3)(A)-(B), (4)(A)-(D), (4)(F), (4)(H) Robotics Programming and Design: (1)(D)-(F), (2)(B), (3)(D)-(E), (3)(H), (5)(A), (7)(C)

VIII. [~~IX.~~] C.2. Create and use representations to organize, record, and communicate mathematical ideas.	Kindergarten - Grade 12: (1)(D)-(F) Kindergarten: (3)(A), (8)(A)-(B) Grade 1: (3)(A), (3)(E), (8)(A)-(B) Grade 3: (3)(A), (3)(E), (3)(H), (4)(D)-(E), (5)(A)-(B), (5)(E) Grade 4: (5)(A)-(B) Grade 5: (5), (8)(C) Grade 6: (2)(A), (4)(F) Grade 7: (6)(A), (7) Grade 8: (11)(A) Algebra I: (4)(A), (4)(C) Algebra II: (8)(A)-(C) Geometry: (5)(C) Mathematical Models with Applications: (2)(C), (3)(C)-(D), (5)(B), (7)(B)-(C), (9)(E), (10)(A)-(B) Advanced Quantitative Reasoning: (2)(F), (3)(A), (4)(P)-(R) Discrete Mathematics for Problem Solving: (2)(A)-(L), (4)(A), (4)(E), (4)(G), (6)(B), (6)(G), (6)(J), (7)(C), (7)(F)-(G) Statistics: (2)(E)-(F), (4)(D), (5)(A), (5)(C) Algebraic Reasoning: (2)(C)-(D), (3)(D)-(F), (4)(A)-(B), (4)(D)	Grades 6-8: (2)(D) Grade 6: (8)(B), (8)(D)-(E) [~~Grade 7: (7)(A)~~] Grade 8: (6)(A), (6)(C), (7)(A) [~~, (8)(D)~~] Aquatic Science: (2)(J) Astronomy: (2)(H) Biology: (2)(H) Chemistry: (2)(I) Environmental Systems: (2)(K) Integrated Physics and Chemistry: (2)(E), (3)(B) Physics: (2)(H)-(J), (3)(A)-(B), (3)(E), (4)(A)-(D), (5)(A)-(D), (7)(A)-(C), (7)(E), (8)(A)-(D) [~~Physics: (2)(I)-(L), (3)(A)-(D), (3)(F), (4)(A)-(E), (5)(A)-(D), (5)(G)-(H), (6)(E)-(G), (7)(A)-(C), (7)(E)-(F), (8)(A)-(D)~~]	Accounting II: (1)(A), (2)(D)-(F), (3)(B), (3)(E)-(F), (4)(C), (4)(H)-(I), (5)(B), (5)(L)-(N), (5)(P), (6)(E)(i)-(vi), (6)(G)(i)-(iv), (6)(R)(iv)-(v); Applied Mathematics for Technical Professionals: (1)(D)-(F), (3)(I)-(J), (6)(A), (6)(C); Digital Electronics: (1)(C), (2)(D)-(F), (7)(L), (7)(N), (8)(B), (12)(A)-(B); Engineering Mathematics: (1)(C), (2)(D)-(F), (3)(B), (4)(C), (11)(A); Financial Mathematics: (1)(A), (2)(D)-(F), (6)(C), (6)(F), (7)(A)-(B), (8)(A), (11)(B), (12), (17)(F); Manufacturing Engineering Technology II: (1)(F), (2)(D)-(F); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(D)-(F), (4)(G), (5)(D), (6)(D), (7)(D), (8)(C), (9)(C), (10)(C); Mathematics for Medical Professionals: (1)(A), (2)(D)-(F), (4)(A)-(C); Robotics II: (1)(J), (2)(D)-(F), (10)(D)-(E), (12)(G); Statistics and Business Decision Making: (1)(A), (2)(D)-(F), (7)(A), (7)(C), (8)(A)-(E), (9), (10)(A)-(C), (12)-(13), (20)(A)-(B), (21); Basic Collision Repair and Refinishing: (2)(B); Collision Repair: (2)(B); Paint and Refinishing: (2)(B); Principles of Technology: (1)(C), (3)(K)-(L); Engineering Design and Problem Solving: (1)(C), (6)(A)-(F); Engineering Science: (1)(C), (3)(F), (3)(H); Biotechnology I: (1)(C), (3)(J); Biotechnology II: (1)(C), (3)(J), (10)(A); Scientific Research & Design: (1)(C), (10)(A); Diversified Manufacturing I: (8)(A); Small Engine Technology I: (2)(E)-(F), (6)(A); Small Engine Technology II: (7)(A)(C)	Discrete Mathematics for Problem-Solving: (1)(A), (3)(A)-(B) Robotics Programming and Design: (1)(D)-(F), (2)(B), (3)(E), (3)(H)
VIII. [~~IX.~~] C.3. Explain, display, or justify mathematical ideas and arguments using precise mathematical language in written or oral communications.	Kindergarten - Grade 12: (1)(D), (1)(F)-(G) Kindergarten: (3)(C) Grade 1: (3)(E)Grade 2: (10)(A) Grade 3: (3)(H), (7)(A)-(B) Grade 5: (4)(E), (8)(A)-(B), (10)(B) Grade 6: (3)(B), (4)(C)-(D), (7)(B) Grade 8: (8)(D) Algebra I: (4)(B) Algebra II: (4)(G), (5)(E), (6)(J) Geometry: (3)(A), (6)(A)-(E), (8)(A), (12)(D) Precalculus: (2)(J)-(K), (2)(M), (4)(A), (4)(J) Mathematical Models with Applications: (3)(B), (7)(B)-(C), (8)(C), (9)(A)-(B), (10)(B) Advanced Quantitative Reasoning: (2)(B), (2)(G)-(H), (3)(B), (3)(F)-(H), (4)(G)-(T) Discrete Mathematics: (2)(A), (2)(L), (3)(G), (4)(B), (4)(D)-(F), (4)(H), (5)(C), (5)(E)-(K), (6)(E), (6)(H)-(I), (6)(K), (7)(A)-(C), (7)(E)-(G) Statistics: (2)(E)-(F), (3)(A), (3)(C)-(D), (4)(A), (4)(C)-(F), (6)(B), (6)(E)-(F), (6)(H)-(J), (7)(C)-(F) Algebraic Reasoning: (3)(A)-(B), (3)(F), (4)(B), (7)(B)-(C)	Integrated Physics and Chemistry: (2)(E), (3)(B), (4)(A), (4)(D)-(F), (5)(A)-(C), (5)(E), (5)(H)-(I), (6)(A)-(E), (7)(A)-(F) Physics: (2)(J), (3)(A)-(B), (3)(E), (4)(A)-(B), (5)(A)-(D), (6)(E)-(G), (7)(A), (E)-(F), (8)(A)-(D) [~~Physics: (2)(I)-(L), (3)(A)-(D), (3)(F), (4)(A)-(E), (5)(A)-(D), (5)(G)-(H), (6)(E)-(G), (7)(A)-(C), (7)(E)-(F), (8)(A)-(D)~~]	Accounting II: (1)(A), (2)(D), (2)(F)-(G), (3)(E)-(H), (4)(A)--(B), (4)(F), (4)(I), (5)(A)-(B), (5)(G)-(J), (5)(L)-(N), (5)(P), (6)(A)-(B), (6)(E)-(J), (6)(L)-(Q), (7)(A)-(B), (8)(B)Applied Mathematics for Technical Professionals: (1)(D), (1)(F)-(G), (2)(B), (2)(H), (3)(K), (5)(D)-(E), (6)(A), (6)(C)-(D), (7)(D)-(E) Digital Electronics: (1)(C), (2)(D), (2)(F)-(G), (7)(A), (7)(C), (7)(L), (7)(N), (8)(B), (8)(E), (9)(C), (9)(F)-(G), (11)(A)-(B), (11)(D), (11)(F), (11)(J), (12)(A)-(B), (12)(F)-(H)Engineering Mathematics: (1)(C), (2)(D), (2)(F)-(G), (3)(A), (6)(B), (6)(D)-(E), (7)(C)-(E), (8)(B)-(C), (8)(E)-(F), (8)(J)-(K),(9)(B), (10)(E), (10)(L)Financial Mathematics: (1)(A), (2)(D), 2(F)-(G), (3)(A)-(D), (3)(G), (3)(J)-(L), (4)(D)-(F), (4)(K)-(L), (5)(A)-(B), (5)(D)-(F), (6)(A), (6)(C)-(I), (7)(A)-(C), (7)(E), (7)(H)-(I), (7)(K), (8)(A), (8)(C)-(D), (9)(A)-(D), (10)(A), (10)(D)-(E), (11)(A)-(B), (12), (14), (15)(C), (17)(F)Manufacturing Engineering Technology II: (1)(F), (2)(D), (2)(F)-(G)Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(D), (2)(F)-(G), (4)(G), (5)(D), (6)(D)Mathematics for Medical Professionals: (1)(A), (2)(D), (2)(F)-(G), (3)(E), (4)(A)-(C), (5)(A)-(B), (6)(H)-(K)Robotics II: (1)(J), (2)(D), (2)(F)-(G), (6)(A), (7)(B)-(C), (7)(E), (8)(B)-(C), (9)(A)-(C), (10)(B), (10)(D)-(E), (10)(G)-(H), (12)(G)Statistics and Business Decision Making: (1)(A), (2)(D), (2)(F)-(G), (3)(A), (4)(A)-(E), (5), (6)(C), (7)(A)-(B), (7)(D), (9), (10)(C), (12)-(13), (15)(B), (16)(A), (16)(C), (16)(E), (16)(G)-(H), (20)(A) Principles of Technology: (1)(C), (3)(K)-(L); Engineering Design and Problem Solving: (1)(C), (6)(A)-(F); Engineering Science: (1)(C), (3)(F), (3)(H); Biotechnology I: (1)(C), (3)(J); Biotechnology II: (1)(C), (3)(J), (10)(A); Scientific Research & Design: (1)(C), (10)(A), Manufacturing Engineering Technology I: (3)(B), (8)(B); Precision Metal Manufacturing I: (3)(D); Precision Metal Manufacturing II: (6)(B)-(D), (13)(A)-(C); Welding I: (3)(B); Small Engine Technology I: (2)(E)-(F), (6)(A)	Discrete Mathematics for Problem-Solving: (1)(B), (2)(A)-(F), (3)(A)-(B), (4)(A)-(D), (4)(F)-(O), (6)(C)-(G), (6)(L)-(M)Robotics Programming and Design: (1)(D), (1)(F)-(G), (2)(D), (2)(F), (3)(D)-(H), (4)(A), (4)(D), (7)(D)-(G), (7)(J), (7)(N), (7)(Q)-(S)
~~IX.~~ [~~X.~~] Connections				
A. Connections among the strands of mathematics				
IX. [~~X.~~] A.1. Connect and use multiple key concepts [~~strands~~] of mathematics in situations and problems.	Kindergarten - Grade 12: (1)(A), (1)(F) Grade 6: (4)(G), (10)(A) Grade 7: (5)(B), (8)(A)-(C) Grade 8: (12)(A)-(D), (12)(G) Algebra I: (7)(A) Algebra II: (4)(B) Geometry: (2)(A)-(C), (4)(B)-(D), (12)(E), (13)(B)-(E) Precalculus: (3)(B)-(I), (4)(C)-(D), (4)(F)-(K) Mathematical Models with Applications: (2)(A)-(C), (5)(A)-(C), (6)(A)-(D) Advanced Quantitative Reasoning: (2)(A), (2)(F), (4)(G), Discrete Mathematics for Problem Solving: (c)(2)-(7) Statistics: (2)(B)-(F)		Accounting II: (2)(A), (2)(F); Applied Mathematics for Technical Professionals: (1)(A), (1)(F); Digital Electronics: (2)(A), (2)(F), (7)(L), (7)(O), (8)(A)-(C), (9)(D), (10)(D), (10)(E), (7)(I)-(K), (12)(A)-(B); Engineering Mathematics: (2)(A), (2)(F), (6)(J)-(O) ; Financial Mathematics: (2)(A), (2)(F); Manufacturing Engineering Technology II: (2)(A), (2)(F), (8)(B)-(C); Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(A), (2)(F), (5)(F), (6)(C), (7)(A), (8)(B)-(C), (11)(A), (11)(C); Mathematics for Medical Professionals: (2)(A), (2)(F), (4)(A); Robotics II: (2)(A), (2)(F), (6)(B), (7)(H)-(K), (8)(A)-(J), (10)(B), (11)(B)-(D), (12)(A)-(B); Statistics and Business Decision Making: (2)(A), (2)(F) ; Principles of Technology: (1)(C), (3)(K)-(L); Engineering Design and Problem Solving: (1)(C), (6)(A)-(F); Engineering Science: (1)(C), (3)(F), (3)(H); Biotechnology I: (1)(C), (3)(J); Biotechnology II: (1)(C), (3)(J), (10)(A); Scientific Research & Design: (1)(C), (10)(A); Diversified Manufacturing II: (2)(C); Metal Fabrication and Machining I: (2)(C); Metal Fabrication and Machining II: (3)(E), (8)(B); Precision Metal Manufacturing I: (3)(B); Precision Metal Manufacturing II: (11)(A)-(H), (12)(A)-(G), (13)(A)-(C); Manufacturing Engineering Technology I: (8)(B); Precision Metal Manufacturing II Lab: (6)(A)-(H), (7)(A)-(G)	Discrete Mathematics for Computer Science: (1)(A)-(C), (2)(A), (2)(D), (2)(F), (3)(A)-(B), (4)(A)-(O), (5)(C), (6)(A)-(M) Robotics Programming and Design: (1)(A), (1)(F), (2)(A), (2)(C), (2)(H), (4)(A)-(E), (5)(A)-(G), (7)(L)-(P)

IX. [X.] A.2. Connect mathematics to the study of other disciplines.	Kindergarten - Grade 12: (1)(A), (1)(F) Grade 4: (10)(B) Grade 5: (10)(B), (10)(F) Grade 6: (14)(C) Grade 7: (13)(A), (13)(C)-(E), (14)(A) Grade 8: (12)(A)-(D) Algebra I: (9)(C) Precalculus: (4)(A), (4)(D), (4)(F), (4)(I), (4)(K)-(L), (4)(N) Mathematical Models with Applications: (c)(2)-(10) Advanced Quantitative Reasoning: (2)(B)-(H), (3)(A)-(H), (4)(H)-(T) Discrete Mathematics for Problem Solving: (2)(B), (2)(J)-(K), (3)(A)-(G), (4)(A)-(J), (5)(A)-(K), (6)(A)-(K), (7)(A)-(G) Algebraic Reasoning: (2)(D), (3)(C)-(F), (4)(A), (5)(D)-(E), (7)(C)-(E)	Grade 6: (6)(B), (8)(B)-(E) ~~[Grade 7: (7)(A)]~~ Grade 8: (6)(A), (6)(C), (7)(A), ~~[(8)(D)]~~ Aquatic Science: (2)(I) Astronomy: (6)(A)-(D), (9)(A)-(B), (11)(E) Chemistry: (2)(G), (5)(C), (6)(C)-(D), (8)(B)-(E), (9)(A) ~~[-(B)]~~ , (10)(C)-(D), (10)(H), ~~[(10)(I),]~~ (11)(C)-(D) Earth and Space Science: (2)(H), (3)(E)-(F), (7)(B), (10)(D) Environmental Systems: (2)(J), (7)(B) Integrated Physics and Chemistry: (3)(D)-(F), (4)(A)-(G), (5)(A)-(I) Physics: (2)(H)-(J), (3)(A)-(C), (3)(E), (4)(A)-(D), (5)(B)-(C), (5)(F), (6)(A), (6)(C)-(D), (7)(B)-(E) ~~[Physics: (2)(I)-(L), (3)(A)-(D), (3)(F), (4)(A)-(E), (5)(B)-(C), (5)(F), (6)(A), (6)(C)-(D), (6)(G), (7)(B)-(E)]~~	Accounting II: (c)(2)-(8); Applied Mathematics for Technical Professionals: (c)(1)-(7); Digital Electronics: (2)(A), (2)(F), (5)(A)-(D), (7)(A), (7)(I), (7)(L)-(M), (8)(B), (9)(A), (9)(E), (10)(C), (10)(H), (10)(J)-(K), (11)(A)-(J), (12)(A)-(B); Engineering Mathematics: (c)(2)-(11); Financial Mathematics: (c)(2)-(17); Manufacturing Engineering Technology II: (2)(A), (2)(F); Mathematical Applications in Agriculture, Food, and Natural Resources: (c)(2)-(12); Mathematics for Medical Professionals: (c)(2)-(7); Robotics II: (c)(2)-(12); Statistics and Business Decision Making: (c)(2)-(23) ; Forestry and Woodland Ecosystems: (4)(A)-(D); Basic Collision Repair and Refinishing: (3)(C)-(D); Collision Repair: (2)(D), (10)(K)-(M); Paint and Refinishing: (3)(C); Principles of Technology: (3)-(13); Engineering Design and Problem Solving: (3)-(9); Engineering Sciences: (4)-(16); Biotechnology I: (3)-(13); Biotechnology II: (3)-(14); Scientific Research & Design: (3)-(10); Principles of Manufacturing: (3)(C), Diversified Manufacturing I: (10)(C); Diversified Manufacturing II: (11)(C); Metal Fabrication and Machining II: (3)(C), (8)(A); Precision Metal Manufacturing I: (3)(B)-(F); Precision Metal Manufacturing II: (6)(C)-(D), (11)(A)-(H), (12)(A)-(G), (13)(A)-(C); Precision Metal Manufacturing II Lab: (6)(A)-(H), (7)(A)-(G); Welding I: (3)(B), (5)(C); Welding II: (3)(A)-(B), (5)(B)	Discrete Mathematics for Computer Science: (1)(A)-(C), (2)(A)-(D), (2)(F), (3)(A)-(B), (4)(A)-(O), (5)(C) Robotics Programming and Design: (c)(1)-(7)
B. Connections of mathematics to nature, real-world situations, and everyday life				
IX. [X.] B.1. Use multiple representations to demonstrate links between mathematical and real-world situations.	Kindergarten - Grade 12: (1)(A), (1)(D) Kindergarten: (4) Grade 1: (4)(A)-(C) Grade 2: (5)(A)-(B), (11)(A) Grade 3: (4)(C), (5)(E), (7)(C)-(E) Grade 5: (3)(A), (8)(C) Grade 6: (2)(D), (4)(B), (4)(G), (5)(A)-(B), (9)(C) Grade 7: (4)(A)-(E), (5)(C), (6)(F), (10)(C), (12)(B)-(C), (13)(A), (13)(C)-(E) Grade 8: (4)(B)-(C), (5)(D), (8)(A)-(C), (11)(A) Algebra I: (2)(A), (2)(D), (2)(H)-(I), (3)(B), (3)(G), (4)(C), (8)(B), (9)(C)-(E) Algebra II: (4)(E), (5)(B), (6)(H), (8)(A)-(C) Geometry: (6)(A), (6)(D)-(E), (7)(B), (8)(A)-(B), (9)(A)-(B), (12)(B)-(C) Precalculus: (2)(N)-(P), (3)(C), (4)(A), (4)(D)-(I), (4)(K), (5)(H)-(L), (5)(N) Mathematical Models with Applications: (c)(2)-(10) Advanced Quantitative Reasoning: (2)(A)-(H), (3)(A)-(H), (4)(H)-(T) Discrete Mathematics for Problem Solving: (2)(B), (2)(G)-(H), (2)(J)-(K), (3)(A)-(G), (4)(A)-(J), (5)(A)-(K), (6)(A)-(K), (7)(A)-(G) Statistics: (2)(F), (3)(B), (4)(B), (4)(D)-(F), (5)(C)-(D), (7)(A), (7)(C), (7)(E)-(F) Algebraic Reasoning: (2)(B)-(D), (3)(C)-(F), (4)(A), (5)(D)-(E), (6)(B)-(C), (7)(B)-(E)	Grade 6: (6)(B), (8)(B)-(E) ~~[Grade 7: (7)(A)]~~ Grade 8: (6)(A), (6)(C), (7)(A), (8)(D) Aquatic Science: (2)(I) Astronomy: (6)(A)-(D), (9)(A)-(B), (11)(E) Chemistry: (2)(G), (5)(C), (6)(C) ~~[-(D)]~~ , (8)(B)-(E), (9)(A) ~~[-(B)]~~ , (10)(C)-(D), (10)(H), ~~[(10)(I),]~~ (11)(C)-(D) Earth and Space Science: (2)(H), (3)(E)-(F), (7)(B), (10)(D) Environmental Systems: (2)(J), (7)(B) Integrated Physics and Chemistry: (3)(D)-(F), (4)(B) Physics: (2)(H)-(J), (3)(A)-(D), (3)(E), (4)(A), (4)(C) ~~[Physics: (2)(I)-(L), (3)(A)-(D), (3)(F), (4)(A), (4)(C), (4)(E)]~~	Accounting II: (1)(A), (2)(D)-(F), (3)(B), (3)(E)-(G), (4)(C), (4)(H)-(I), (5)(B), (5)(L)-(P), (6)(E)(i)-(vi), (6)(G)(i)-(iv), (6)(R)(iv)-(v) Applied Mathematics for Technical Professionals: (1)(D)-(F), (2)(B)-(C), (2)(E), (2)(H), (3)(I)-(K), (4)(D), (4)(I), (5)(A), (5)(D)-(E), (6)(A), (6)(C)-(D), (7)(D)-(E) Digital Electronics: (1)(C), (2)(D)-(F), (7)(L), (8)(B), (12)(A)-(B) Engineering Mathematics: (1)(C), (2)(D)-(F), (4)(C), (4)(G), (4)(I), (5)(B), (6)(A), (6)(J)-(O), (7)(B), (7)(G), (7)(K), (9)(D), (11)(C)-(D) Financial Mathematics: (1)(A), (2)(D)-(F), (3)(G), (3)(J)-(L), (4)(D)-(F), (4)(K)-(L), (5)(A)-(F), (6)(A), (6)(C)-(G), (6)(I), (7)(A)-(C), (7)(E), (7)(H)-(I), (7)(K)-(L), (8)(A)-(D), (9)(A)-(D), (10)(A), (10)(E)-(G), (11)(A)-(B), (12)-(14), (15)(C), (17)(D)-(G) Manufacturing; Engineering Technology II: (1)(F), (2)(D)-(F), (8)(C) Mathematical Applications in Agriculture, Food, and Natural Resources: (2)(D)-(F), (4)(G), (5)(B)-(D), (6)(C)-(D), (7)(C), (8)(C), (9)(C), (10)(C), (11)(C), (12)(D); Mathematics for Medical Professionals: (1)(A), (2)(D)-(F), (4)(A)-(E) Robotics II: (1)(J), (2)(D)-(F), (8)(A), (8)(D), (10)(D)-(E), (11)(D), (12)(G) Statistics and Business Decision Making: (1)(A), (2)(D)-(F), (7)(A)-(B), (7)(D), (9), (10)(A)-(C), (12)-(13), (16)(A), (16)(C), (16)(E), (16)(G)-(H), (20)(B)-(C), (21) Basic Collision Repair and Refinishing: (3)(C)-(D) Collision Repair: (2)(D), (3)(D), (10)(K)-(M) Paint and Refinishing: (3)(C) Engineering Design and Problem Solving: (5)(K), (8)(A)-(I), (9)(A)-(I) Engineering Science: (6)(A), (15)(A)-(H), (16)(A)-(D) Manufacturing Engineering Technology I: (8)(B) Precision Metal Manufacturing II Lab: (7)(A)-(C) Automotive Technology II: Automotive Service: (2)(B)	Discrete Mathematics for Problem-Solving: (1)(A)-(C), (2)(A)-(F), (3)(A)-(B), (4)(F), (4)(L)-(O), (5)(C) Robotics Programming and Design: (1)(D)-(F), (2)(B), (3)(D)-(E), (3)(H), (5)(A), (7)(C)
IX. [X.] B.2. Understand and use appropriate mathematical models in the natural, physical, and social sciences.	Kindergarten - Grade 12: (1)(A) Grade 8: (5)(E), (5)(H), (8)(A)-(C), (11)(A), (12)(A)-(D) Algebra I: (2)(D), (4)(C), (5)(A)-(C), (8)(A)-(C), (9)(C), (9)(E) Algebra II: (5)(B), (6)(H), (6)(L) Precalculus: (2)(N)-(P), (3)(C), (4)(A), (4)(D)-(K), (5)(C), (5)(J)-(L), (5)(N) Mathematical Models with Applications: (5)(A)-(C), (6)(A)-(D), (8)(A)-(C), (9)(A)-(F), (10)(A)-(B) Advanced Quantitative Reasoning: (2)(A)-(H), (3)(A), (3)(C)-(H), (4)(H)-(T) Discrete Mathematics for Problem Solving: (2)(G), (2)(K), (4)(A)-(J), (5)(A)-(K), (6)(A)-(K), (7)(A)-(G) Statistics: (c)(2)-(7) Algebraic Reasoning: (2)(C)-(D), (3)(C)-(D), (5)(D)-(E), (6)(B)-(C), (7)(C)-(E)	Grades 6 - 8: ~~[(2)(E)]~~ (3)(B)-(C) Grade 6: (6)(B), (8)(C) ~~[Grade 7: (7)(A)]~~ Grade 8: (6)(A), (6)(C), (7)(A), ~~[(8)(D)]~~ Aquatic Science: (2)(I) Astronomy: (6)(A)-(D), (9)(A)-(B), (11)(E) Chemistry: (2)(G), (5)(C), (6)(C)-(D), (8)(B)-(E), (9)(A)~~-(B)~~, (10)(C)-(D), (10)(~~H~~), (11)(C)-(D) Earth and Space Science: (2)(H), (3)(E)-(F), (7)(B), (10)(D) Environmental Systems: (2)(J), (7)(B) Integrated Physics and Chemistry: (3)(D)-(F), (4)(A)-(G), (5)(A)-(I) Physics: (2)(H)-(J), (3)(A)-(C), (3)(E), (4)(A)(D), (5)(B)-(C), (5)(F), (6)(A), (6)(C)-(G), (7)(A)-(E), (8)(A)-(C) ~~[Physics: (2)(I)-(L), (3)(A)-(D), (3)(F), (4)(A)(E), (5)(B)-(C), (5)(F), (6)(A), (6)(C)-(G), (7)(A)-(F), (8)(A)-(C)]~~	Accounting II: (2)(A), (3)(B)-(D), (3)(F), (4)(B)-(I), (5)(B), (5)(D)-(F), (5)(I), (5)(K)-(P), (6)(D)-(H), (6)(J)-(O), (6)(R), (7)(A), (7)(B)iv)-(v), (8)(A) Applied Mathematics for Technical Professionals: (1)(A), (2)(A)-(H), (3)(A)-(K), (4)(A)-(F), (5)(A)-(E), (6)(A)-(C), (7)(A)-(E); Digital Electronics: (2)(A), (7)(A)-(O), (8)(A)-(F), (9)(A)-(F), (10)(A)-(K)- (11)(A)-(J), (12)(A)-(E); Engineering Mathematics: (c)(2)-(11); Financial Mathematics: (2)(A), (3)(C)-(L), (4)(A)-(C), (4)(E)-(K), (5)(C)-(E), (6)(B)-(G), (6)(I), (7)(A)-(I), (7)(K)-(L), (8)(A)-(F), (9)(A)-(D), (10)(A)-(C), (10)(E)-(F), (11)(A)-(D), (12), (15)(A), (15)(C), (17)(C), (17)(G); Manufacturing Engineering Technology II: (2)(A); Mathematical Applications in Agriculture, Food, and Natural Resources: (c)(2)-(12); Mathematics for Medical Professionals: (2)(A), (4)(A)-(F); Robotics II: (c)(2)-(12); Statistics and Business Decision Making: (2)(A), (6)(A), (6)(C), (7)(C)-(D), (9), (10)(A)-(C), (12)-(13), (15)(A), (16)(A)-(H), (17)-(19), (20)(A)-(C), (21), (22)(A)-(D); Basic Collision Repair and Refinishing: (3)(C); Collision Repair: (3)(D), (5)(D); HVAC Tech I: (6)(C); Engineering Design and Problem Solving: (3)(F), (4)(E), (5)(C), (5)(E), (8)(F); Engineering Science: (3)(F), (4)(E); Biotechnology I: (3)(F), (4)(E); Biotechnology II: (4)(E); Scientific Research and Design: (4)(E); Diversified Manufacturing II: (9)(A), (11)(C); Metal Fabrication and Machining II: (3)(C), (8)(A); Precision Metal Manufacturing I: (3)(C)-(D); Precision Metal Manufacturing II: (6)(C)-(D), (11)(A)-(H), (12)(A)-(G), (13)(A)-(C); Precision Metal Manufacturing II Lab: (6)(A)-(H), (7)(A)-(G); Introduction to Welding: (5)(A); Welding I: (3)(B); Welding II: (3)(A); Small Engine Technology I: (5)(D), (6)(A)(C)-(E); Small Engine Technology II: (5)(E), (7)(A)(E)-(G)	Discrete Mathematics for Computer Science: (1)(A)-(C), (2)(A), (3)(A)-(B), (5)(C) Robotics Programming and Design: (c)(1)-(7)

IX. [X.] B.3. Know and understand the use of mathematics in a variety of careers and professions.	Kindergarten - Grade 12: (1)(A) Grade 8: (12)(A)-(G) Precalculus: (4)(F) Mathematical Models with Applications: (c)(2)-(10) Advanced Quantitative Reasoning: (2)(A)-(H), (3)(C)-(H), (4)(D)-(F), (4)(H)-(T) Discrete Mathematics for Problem Solving: (2)(B), (2)(D), (2)(G), (2)(J)-(K), (3)(A)-(G), (4)(A)-(J), (5)(A)-(K), (6)(A)-(K), (7)(A)-(G) Statistics: (c)(2)-(7) Algebraic Reasoning: (3)(E), (4)(A), (7)(C)-(E)	Aquatic Science: (3)(E)-(F) Astronomy: (3)(E) Biology: (3)(F) Chemistry: (3)(E)-(F) Earth and Space Science: (3)(E)-(F), (12)(E) Environmental Systems: (3)(E)-(F) Integrated Physics and Chemistry: (3)(E)-(F) Physics: (3)(C)-(D) [~~-(E), (5)(A), (7)(F)~~] , (8)(D)	Accounting II: (c)(1)-(8); Applied Mathematics for Technical Professionals: (c)(1)-(7); Digital Electronics: (1)(A)-(E), (2)(A), (3)(A)-(I), (4)(A)-(C), (5)(A)-(D), (6)(A)-(H), (7)(A), (7)(H)-(I), (7)(L)-(O), (8)(A)-(F), (9)(A)-(F), (10)(A)-(K), (11)(A)-(G), (12)(A)-(H); Engineering Mathematics: (c)(1)-(11); Financial Mathematics: (c)(1)-(17); Manufacturing Engineering Technology II: (1)(A)-(G), (2)(A); Mathematical Applications in Agriculture, Food, and Natural Resources: (c)(1)-(12); Mathematics for Medical Professionals: (c)(1)-(7); Robotics II:(c)(1)-(12); Statistics and Business Decision Making: (c)(1)-(23); Veterinary Medical Applications: (8)(A)-(H); Forestry and Woodland Ecosystems: (4)(A)-(D); Principles of Technology: (4)(E); Biotechnology I: (4)(F); Biotechnology II: (4)(F); Scientific Research and Design: (4)(F); Engineering Design and Problem Solving: (7)(A), (7)(C); Diversified Manufacturing II: (11)(C); Precision Metal Manufacturing I: (3)(B); Precision Metal Manufacturing II: (11)(C), (12)(C); Precision Metal Manufacturing II Lab: (6)(C), (7)(C); Introduction to Welding: (5)(A); Welding I: (3)(B); Welding II: (3)(A); Automotive Technology II: Automotive Service: (3)(H); Business Information Management II: (7)	Discrete Mathematics for Computer Science: (1)(A)-(C), (2)(A)-(F), (3)(A)-(B), (5)(A)-(C) Robotics Programming and Design: (c)(1)-(7)