

March 2017 STAAR Grade 5 Math Rationales

Item #	Response A/F	Response B/G	Response C/H	Response D/J
1	A is incorrect because $3.20 \div 5 = 0.64$, not 1.44.	B is incorrect because $3.20 \div 5 = 0.64$, not 1.56.	C is correct because $3.20 \div 5 = 0.64$.	D is incorrect because 3.20 should be divided by 5, not subtracted from 5.
2	F is incorrect because 13.068 is not greater than 13.608.	G is correct because 13.068 is less than 13.608.	H is incorrect because 13.068 and 13.608 are not equal.	J is incorrect because the addition sign does not show a comparison of 13.068 and 13.608.
3	A is correct because $6 \times 11 \times 3 = 198$.	B is incorrect because $6 \times 11 = 66$ and does not include multiplying by 3 layers of sugar cubes.	C is incorrect because $6 \times 11 \times 3 = 198$, not 594.	D is incorrect because the volume is $6 \times 11 \times 3 = 198$, not $(6 \times 11) + (3 \times 11) = 99$.
4	F is incorrect because the model represents $11/15 - 2/5$, not $11/15 - 1/6$.	G is incorrect because the model represents $11/15 - 2/5$, not $11/12 - 6/12$.	H is incorrect because the model represents $11/15 - 2/5$, not $6/15 - 4/15$.	J is correct because the model represents $11/15 - 2/5$. The fraction $2/5$ is equivalent to $6/15$.
5	A is incorrect because the diagram shows a pattern of adding 2.5 to each number in List X to get the number in List Y.	B is incorrect because the diagram shows a pattern of adding 2 to each number in List X to get the number in List Y.	C is correct because the diagram shows a pattern of adding 2.05 to each number in List X to get the number in List Y.	D is incorrect because the diagram shows a pattern of subtracting 2.05 from each number in List X to get the number in List Y.
6	F; 32.34 is correct because $(9.35 \times 2) + (6.82 \times 2) = 32.34$.	G; Students may have added the two sides together to get $9.35 + 6.82 = 16.17$.		
7	A is correct because $66 - 19 = 47$.	B is incorrect because $66 - 19 = 47$, not 9.	C is incorrect because $66 - 19 = 47$, not 5.	D is incorrect because $66 - 19 = 47$, not 49.
8	F is incorrect because 24 should be divided by $1/6$, not multiplied by $1/6$.	G is correct because $24 \div 1/6 = 144$.	H is incorrect because 24 should be divided by $1/6$, not added to 6.	J is incorrect because $24 \div 1/6 = 144$, not 240.
9	A is incorrect because the x-axis and y-axis intersect at the coordinates (0, 0), not at (5, 5).	B is incorrect because the x-axis and y-axis intersect at the coordinates (0, 0), not at (5, 0).	C is incorrect because the x-axis and y-axis intersect at the coordinates (0, 0), not at (0, 5).	D is correct because the x-axis and y-axis intersect at the coordinates (0, 0).
10	F is incorrect because $158.757 + 95.25 = 254.007$, not 253.782.	G is correct because $158.757 + 95.250 = 254.007$.	H is incorrect because $1.68 - 1.448 = 0.232$, not 1.28.	J is incorrect because $1.448 + 1.68 = 3.128$, not 2.028.
11	A is correct because the graph shows the growth of 1 inch the first week and 2 inches each week the following weeks.	B is incorrect because the graph shows the growth of 2 inches the first week and 2 inches each week the following weeks.	C is incorrect because the graph shows the growth of 2 inches the first week and 1 inch each week the following weeks.	D is incorrect because the graph shows the growth of 1 inch the first week and 1 inch every two weeks the following weeks.
12	F is incorrect because $(224 \times 16) + 14 = 3,598$, not 3,478.	G is correct because $(224 \times 16) + 14 = 3,598$.	H is incorrect because $(224 \times 16) + 14 = 3,598$, not 3,808.	J is incorrect because $(224 \times 16) + 14 = 3,598$, not 3,584.
13	A is correct; the number 2 is prime because it has only two factors, 1 and 2.	B is incorrect because a composite number has more than two factors, and the number 2 has only 2 factors.	C is incorrect because a number can only be prime or composite, not both.	D is incorrect because the number 2 is a prime number but not composite.
14	F is incorrect because $(500 - 260) \div 2 = 120$, not 380.	G is incorrect because $(500 - 260) \div 2 = 120$, not 180.	H is incorrect because $(500 - 260) \div 2 = 120$, not 370.	J is correct because $(500 - 260) \div 2 = 120$.

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15	A is incorrect because a trapezoid is not a subset of rectangles or parallelograms.	B is correct because a square is a subset of rectangles, parallelograms, and quadrilaterals.	C is incorrect because a pentagon is not a subset of rectangles, parallelograms, or quadrilaterals.	D is incorrect because a rhombus is not a subset of rectangles.
16	F is incorrect because $3 \times 38 - 2 + 7 = 29$, not 15.	G is incorrect because $3(8) - 2(7) = 10$, not 15.	H is correct because $3 \times 8 - (2 + 7) = 15$	J is incorrect because $3 + 8 - 2 + 7 = 16$, not 15.
17	A is incorrect because 32.6 and 3.8 should be multiplied, not added.	B is incorrect because $32.6 \times 3.8 = 123.88$, not 12.388.	C is incorrect because $32.6 \times 3.8 = 123.88$, not 96.48.	D is correct because $32.6 \times 3.8 = 123.88$.
18	F is incorrect because 9.375 rounded to the nearest hundredth is 9.38, not 9.40.	G is correct because 9.375 rounded to the nearest hundredth is 9.38.	H is incorrect because 9.375 rounded to the nearest hundredth is 9.38, not 9.37.	J is incorrect because 9.375 rounded to the nearest hundredth is 9.38, not 9.47.
19	A is incorrect because the larger piece is divided into smaller pieces which is represented by $19.2 \div 4$, not 19.2×4 .	B is incorrect because the larger piece is divided into smaller pieces which is represented by $19.2 \div 4$, not $19.2 - 4$.	C is correct because the larger piece is divided into smaller pieces which is represented by $19.2 \div 4$.	D is incorrect because the larger piece is divided into smaller pieces which is represented by $19.2 \div 4$, not $19.2 + 4$.
20	F is correct because a payroll tax is a tax that includes Social Security and Medicare taxes paid by an employer.	G is incorrect because property tax is a tax on owned property such as real estate.	H is incorrect because sales tax is a tax that is added to the price of goods and services.	J is incorrect because gasoline tax is a tax added to the price of gas.
21	A is correct because $16 \frac{3}{4} + 9 \frac{1}{2} = 26 \frac{1}{4}$.	B is incorrect because $16 \frac{3}{4} + 9 \frac{1}{2} = 26 \frac{1}{4}$, not $25 \frac{1}{4}$.	C is incorrect because $16 \frac{3}{4} + 9 \frac{1}{2} = 26 \frac{1}{4}$, not $25 \frac{2}{3}$.	D is incorrect because $16 \frac{3}{4} + 9 \frac{1}{2} = 26 \frac{1}{4}$, not 26.
22	F; 16 is correct because $528 \div 33 = 16$.	G; Students may have added $528 + 33 = 561$.		
23	A is incorrect because a trapezoid is not a subset of parallelograms.	B is incorrect because a quadrilateral is not a subset of parallelograms.	C is correct because a rhombus is a subset of parallelograms.	D is incorrect because a triangle is not a subset of parallelograms.
24	F is incorrect because each x value is divided by 3 to get the y value, which represents the equation $y = x \div 3$.	G is correct because each x value is multiplied by 3 to get the y value, which represents the equation $y = 3x$.	H is incorrect because each x value is multiplied by 1 to get the y value, which represents the equation $y = x$.	J is incorrect because it does not represent the equation $y = 3x$.
25	A is incorrect because the numbers are listed in order from least to greatest. This list is true.	B is incorrect because the numbers are listed in order from least to greatest. This list is true.	C is correct because the numbers are not listed in order from least to greatest. This list is NOT true.	D is incorrect because the numbers are listed in order from least to greatest. This list is true.
26	F is incorrect because the perimeter of the playground, which is 144 ft, should be divided by 4, then multiplied by 12 to find the cost, b.	G is incorrect because the perimeter of the playground which is 144 ft, should be divided by 4, then multiplied by 12 to find the cost, b.	H is incorrect because the perimeter of the playground which is 144 ft, should be divided by 4, then multiplied by 12 to find the cost, b.	J is correct because the perimeter of the playground which is 144 ft, should be divided by 4, then multiplied by 12 to find the cost, b.
27	A is correct because the area is $36 \times 24 = 864$.	B is incorrect because the area is $36 \times 24 = 864$, not $36 \times 30 = 1,080$.	C is incorrect because the area is $36 \times 24 = 864$, not $24 \times 30 = 720$.	D is incorrect because the area is $36 \times 24 = 864$, not 1,296.
28	F; 775 is correct because $250 + 225 + 300 = 775$.	G; Students may have added different combinations of schools.		

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29	A is incorrect because $1/8 \div 6 = 1/48$, not $1/2$.	B is incorrect because $1/8 \div 6 = 1/48$, not $1/14$.	C is incorrect because $1/8 \div 6 = 1/48$, not $3/4$.	D is correct because $1/8 \div 6 = 1/48$.
30	F is incorrect because it shows an extra dot on 1, two extra dots on $1\ 1/2$, no dots on $1\ 1/4$, no dot on $3/4$, no dot on $2\ 1/4$, and one dot on $2\ 1/2$.	G is correct because it shows all 10 dots that represent all of the data in the table.	H is incorrect because it is missing a dot on $1\ 1/2$, and shows an extra dot on $1\ 1/4$.	J is incorrect because it shows no dot on $3/4$, has an extra dot on 1, and shows a dot on $1\ 3/4$.
31	A is incorrect because 15×40 is 600 which is not close to 6,000, the number of hours in Venus's day length when rounded to the nearest thousand.	B is correct because 15×400 is 6,000 which is about the number of hours in Venus's day length when rounded to the nearest thousand.	C is incorrect because $15 \times 50 = 750$ which is not close to 6,000, the number of hours in Venus's day length when rounded to the nearest thousand.	D is incorrect because 15×500 is 7,500 which is not close to 6,000, the number of hours in Venus's day length when rounded to the nearest thousand.
32	F is incorrect because $8 \times (3.8 + 13.2) - 6 = 130$, not 37.6.	G is incorrect because $8 \times (3.8 + 13.2) - 6 = 130$, not 61.4.	H is correct because $8 \times (3.8 + 13.2) - 6 = 130$.	J is incorrect because $8 \times (3.8 + 13.2) - 6 = 130$, not 88.
33	A is correct because $95.40 \div 12 = 7.95$.	B is incorrect because $95.40 \div 12 = 7.95$, not 7.96.	C is incorrect because 95.40 should be divided by 12, not multiplied by 12.	D is incorrect because 95.40 should be divided by 12, not added to 12.
34	F is incorrect because there are no points plotted at $(6/2, 3/2)$, $(12/2, 9/2)$, or $(18/2, 15/2)$.	G is incorrect because there is not a point plotted at $(15/2, 15/2)$.	H is incorrect because there are no points plotted at $(6/2, 12/2)$ or $(9/2, 18/2)$.	J is correct because the values in the table match the points plotted on the coordinate grid.
35	A is incorrect because $48 \times 1.35 = 64.8$, not 50.4.	B is incorrect because $48 \times 1.35 = 64.8$, not 40.4.	C is correct because $48 \times 1.35 = 64.8$.	D is incorrect because $48 \times 1.35 = 64.8$, not 16.2.
36	F is incorrect because the volume is $10 \times 8 \times 6 = 480$, not $8 \times 6 = 48$.	G is incorrect because the volume is $10 \times 8 \times 6 = 480$, not $10 \times 8 = 80$.	H is incorrect because the volume is $10 \times 8 \times 6 = 480$, not 160.	J is correct because the volume is $10 \times 8 \times 6 = 480$, which is not here.