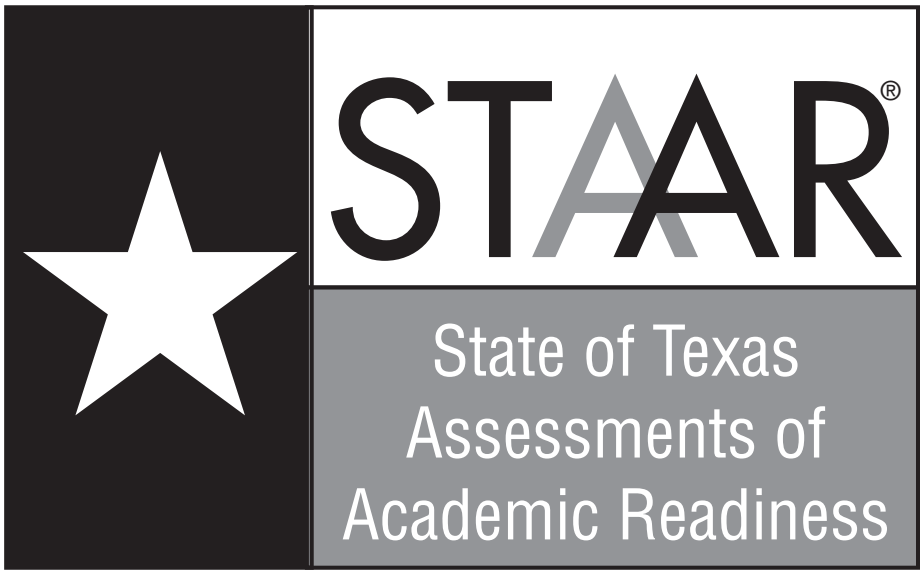

GRADE 5

Mathematics

Administered May 2021

RELEASED

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STAAR GRADE 5 MATHEMATICS REFERENCE MATERIALS

PERIMETER

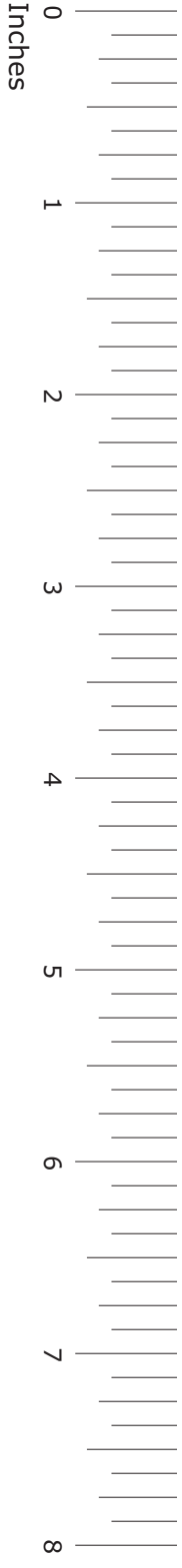
Square			$P = 4s$
Rectangle			$P = 2l + 2w$

AREA

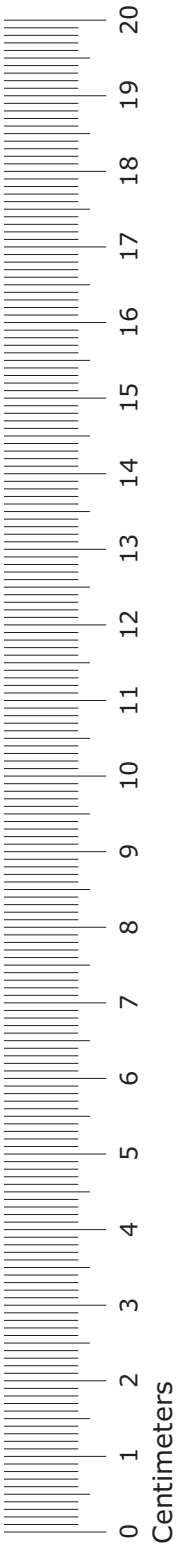
Square			$A = s \times s$
Rectangle	$A = l \times w$	or	$A = bh$

VOLUME

Cube			$V = s \times s \times s$
Rectangular prism	$V = l \times w \times h$	or	$V = Bh$



STAAR GRADE 5 MATHEMATICS REFERENCE MATERIALS



LENGTH

Customary	Metric
1 mile (mi) = 1,760 yards (yd)	1 kilometer (km) = 1,000 meters (m)
1 yard (yd) = 3 feet (ft)	1 meter (m) = 100 centimeters (cm)
1 foot (ft) = 12 inches (in.)	1 centimeter (cm) = 10 millimeters (mm)

VOLUME AND CAPACITY

Customary	Metric
1 gallon (gal) = 4 quarts (qt)	1 liter (L) = 1,000 milliliters (mL)
1 quart (qt) = 2 pints (pt)	
1 pint (pt) = 2 cups (c)	
1 cup (c) = 8 fluid ounces (fl oz)	

WEIGHT AND MASS

Customary	Metric
1 ton (T) = 2,000 pounds (lb)	1 kilogram (kg) = 1,000 grams (g)
1 pound (lb) = 16 ounces (oz)	1 gram (g) = 1,000 milligrams (mg)

MATHEMATICS

DIRECTIONS

Read each question carefully. For a multiple-choice question, determine the best answer to the question from the four answer choices provided. For a griddable question, determine the best answer to the question. Then fill in the answer on your answer document.

1 Kelsi spends $6.75 every Saturday for breakfast. What is the total amount of money Kelsi spends on breakfast for 14 Saturdays?

A $94.50

B $20.75

C $92.30

D $33.75

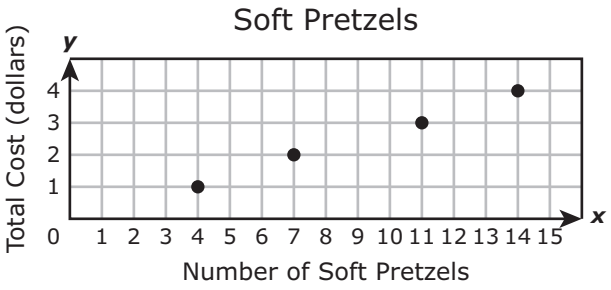
2 The table shows the relationship between the numbers of soft pretzels customers bought at a store and the total cost of the pretzels in dollars.

Soft Pretzels

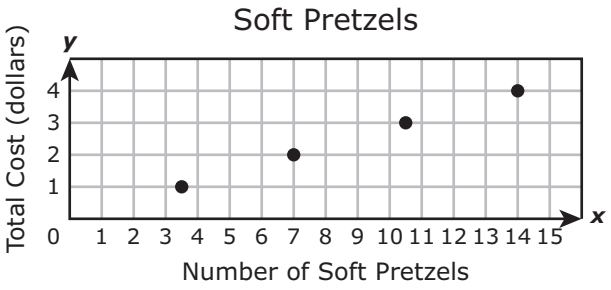
Number of Soft Pretzels, x	Total Cost, y (dollars)
1	3.50
2	7.00
3	10.50
4	14.00

Which graph best represents the data from the table?

F



H



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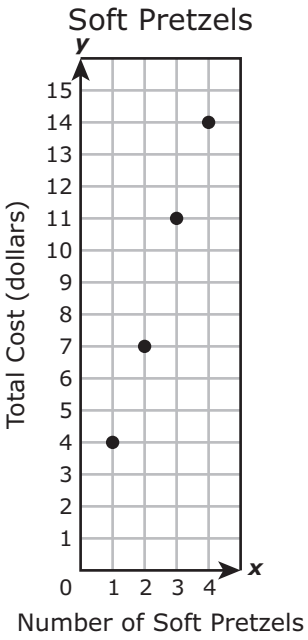
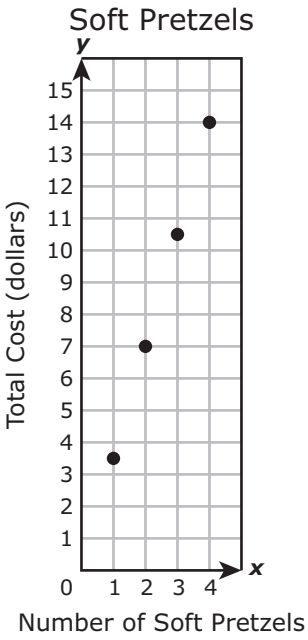


J



GO ON

3 An elementary school had 90 boxes of glue sticks. Each box had 36 glue sticks. Teachers put all of the glue sticks into bags to give to the students. They put 6 glue sticks into each bag.

Which equation can be used to find b, the number of bags the teachers can fill with these glue sticks?

A $90 \times 36 \div 6 = b$

B $90 \div 6 + 36 = b$

C $36 \times 90 + 6 = b$

D $36 \times 6 \times 90 = b$

---

4 A rectangular prism has a length of 20 inches, a width of 11 inches, and a height of 13 inches. What is the volume in cubic inches of this rectangular prism?

F 233 cubic inches

G 2,860 cubic inches

H 160 cubic inches

J 88 cubic inches

---

5 Nicholas put 1,012 baseball cards into boxes. He put 22 cards in each box.

How many boxes did Nicholas need for these baseball cards?

A 55

B 50

C 46

D 47

6 The mass in kilograms of an ice chest is shown in expanded notation.

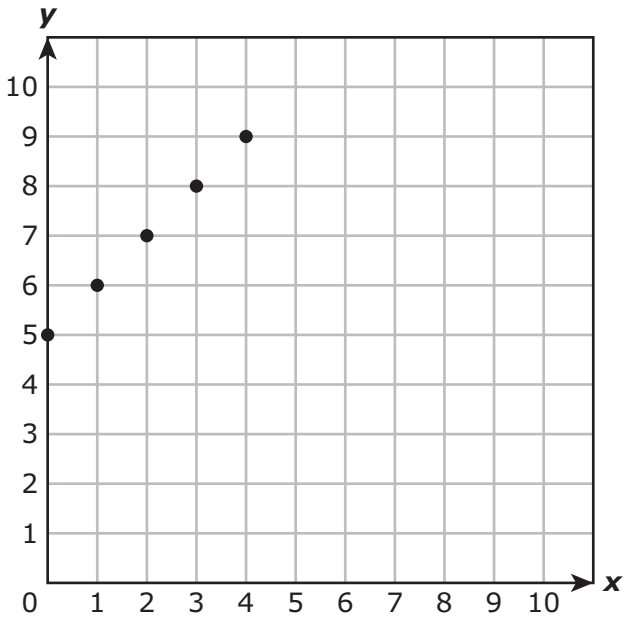
$$(1 \times 10) + (3 \times 1) + (6 \times 0.1) + (1 \times 0.01)$$

What is this mass in kilograms, written as a numeral?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

GO ON

7 The points plotted on the coordinate grid represent the rule $y = x + 5$.



Which table also represents this rule?

A

x	*y*
9	4
11	6
14	9
20	15

B

x	*y*
4	9
5	10
6	11
7	12

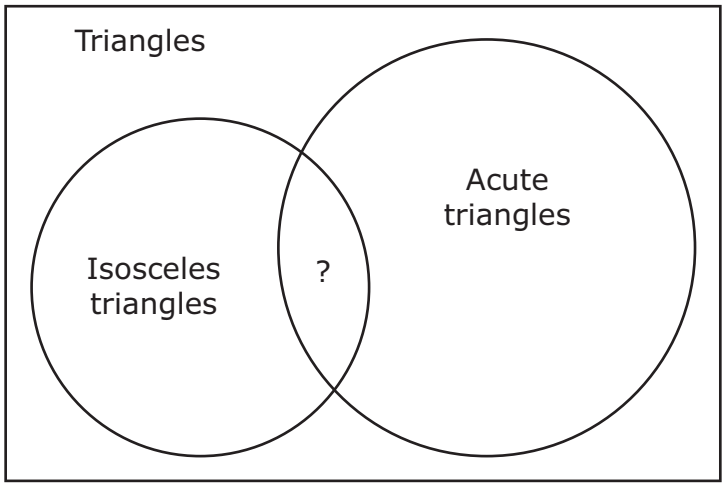
C

x	*y*
5	10
6	15
7	20
8	25

D

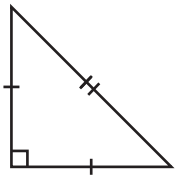
x	*y*
4	20
5	25
6	30
7	35

8 This Venn diagram shows the relationship between some types of triangles.

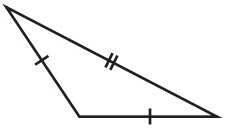


Which triangle belongs in the intersection of "Acute triangles" and "Isosceles triangles"?

F



H



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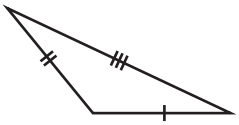

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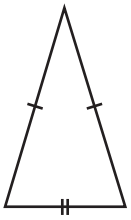


9 The table shows the times it took four runners to finish a race.

Race Times

Runner	Time (minutes)
W	20.3
X	19.795
Y	20.35
Z	19.8

Which comparison of these times is NOT correct?

A $20.3 < 20.35$

B $19.795 > 19.8$

C $19.8 < 20.3$

D $20.35 > 19.795$

---

10 Ms. Fitzgerald had $2\frac{1}{4}$ gallons of fruit punch. She served $\frac{3}{8}$ gallon of the fruit punch to her family at lunch.

How many gallons of fruit punch did Ms. Fitzgerald have left after lunch?

F $2\frac{1}{3}$ gal

G $1\frac{6}{8}$ gal

H $1\frac{1}{2}$ gal

J $1\frac{7}{8}$ gal

11 Which statement is NOT true about a coordinate grid?

A The vertical number line is the *y*-axis.

B In a coordinate grid, the *x*-axis and the *y*-axis are perpendicular to each other.

C The *x*-coordinate is the second number in an ordered pair.

D The origin is the intersection of the *x*-axis and the *y*-axis.

---

12 Angelina used $\frac{1}{3}$ of a bag of soil to fill 6 flowerpots. She filled each flowerpot with the same amount of soil.

How much soil did Angelina use to fill each flowerpot?

F $\frac{1}{18}$ of a bag

G 18 bags

H $\frac{1}{2}$ of a bag

J 2 bags

---

13 Fabio drinks 2 quarts of water each day. How many cups of water does Fabio drink each day?

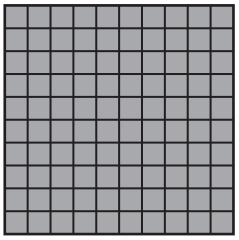
A 4 cups

B 16 cups

C 64 cups

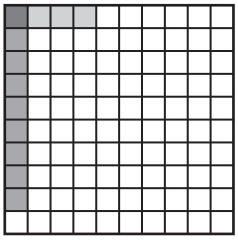
D 8 cups

14 This model is shaded to represent 1 whole.



Which model represents $0.9 \times 0.4 = 0.36$?

F



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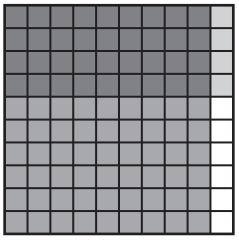

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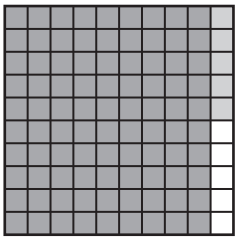

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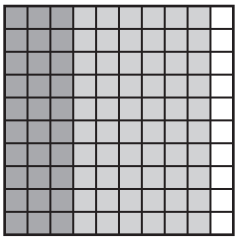
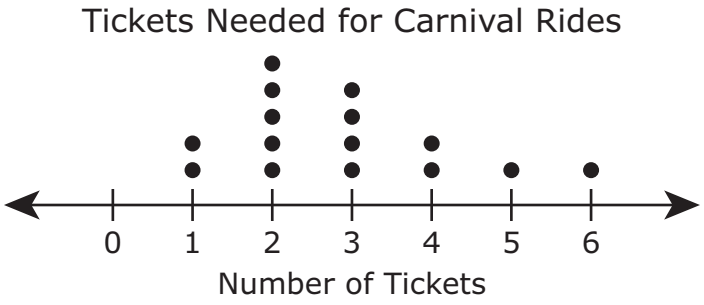


15 The dot plot shows the number of tickets needed for each ride at a carnival.



What is the difference between the number of rides that need fewer than 4 tickets and the number of rides that need 4 or more tickets?

A 7

B 2

C 9

D 4

---

16 A cafeteria worker used 8.05 kilograms of meat to make 35 lunches. Each lunch had the same amount of meat.

What was the mass in kilograms of the meat in each lunch?

F 2.03 kg

G 0.23 kg

H 0.023 kg

J 2.3 kg

17 Two numbers are shown. A number in between is missing.

$$6.027 \quad \square \quad 6.009$$

Which number can be placed in the box to show the numbers in order from greatest to least?

A 6.25

B 6.02

C 6.005

D 6.028

---

18 Last month a flower shop employee ordered 48 cases of roses. There were 144 roses in each case.

How many roses did this employee order?

F 5,482

G 1,728

H 6,912

J 4,844

---

19 What is the value of this expression?

$$10[3 + (7 + 5) \div 3]$$

A 14

B 34

C 50

D 70

20 The four figures shown are rectangular prisms made of unit cubes.

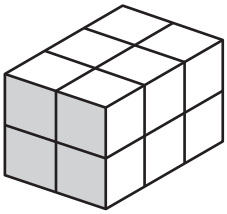


Figure I

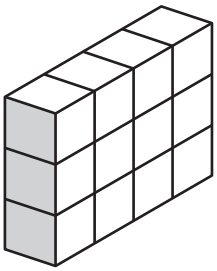


Figure II

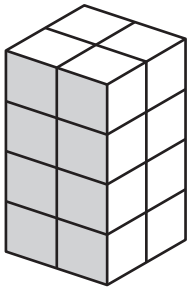


Figure III

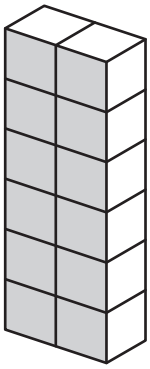


Figure IV

Which figures have a volume of 12 cubic units?

F Figures II and IV only

G Figures I and III only

H Figures I, II, and IV only

J Figures I, II, III, and IV

---

21 Kendra earned a total of $625 selling jewelry.

- She sold 7 necklaces for $55 each.
- She sold 8 rings.
- Each ring was sold for the same price.

The equation shown can be used to find r, the amount of money in dollars she earned for each ring sold.

$$r = [625 - (7 \times 55)] \div 8$$

What was the amount of money in dollars Kendra earned for each ring sold?

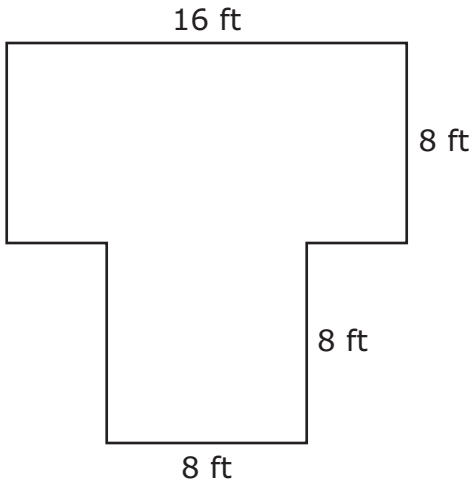
A $30

B $240

C $45

D None of these

22 Edgar built a deck in his backyard with a section in the shape of a rectangle and a section in the shape of a square. The model shows the dimensions of his deck in feet.



What is the area in square feet of the deck Edgar built?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

23 Jaylen was told to list all prime numbers between 30 and 50. Jaylen's list is shown.

31, 37, 41, 47

Which prime number is missing from Jaylen's list?

A 49

B 39

C 43

D 33

---

24 Gwen had a board that was 6.48 meters long. She cut the board into 9 pieces of equal length.

What was the length of each piece in meters?

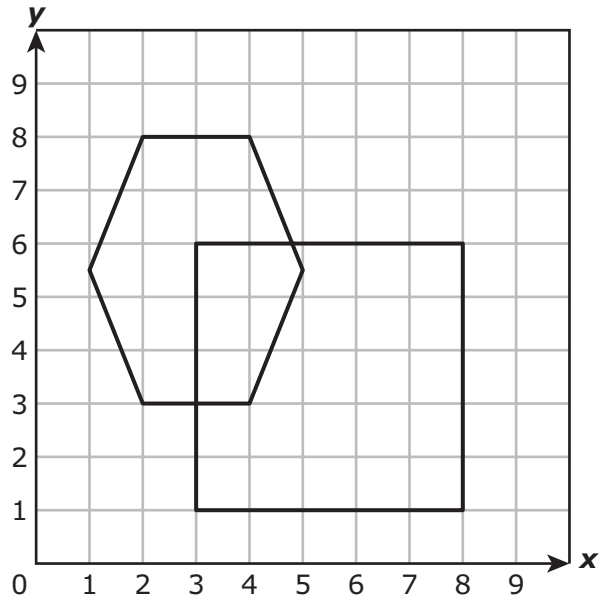
F 6.39 m

G 0.61 m

H 6.08 m

J 0.72 m

25 There are two shapes drawn on the coordinate grid, as shown.



Which ordered pair represents a point that is inside both shapes?

A (3.5, 5.5)

B (5.5, 3.5)

C (4.5, 2.5)

D (2.5, 4.5)

26 Which table contains only x-values and y-values that make the equation $y = 4.8x$ true?

F

x	y
2	9.6
4	19.2
6	28.8
8	38.4

H

x	y
2	4.8
4	9.6
6	14.4
8	19.2

G

x	y
3	7.8
5	9.8
7	11.8
9	13.8

J

x	y
3	14.4
5	19.2
7	24.0
9	28.8

---

27 Spencer needs to balance his April budget.

Spencer's April Budget

Income		Expenses	
Allowance	$40	Cell phone	$15
After-school job	$30	Piano lessons	$25
		Entertainment	$30
		Savings	$10

What can he do so that his budget is balanced?

A Increase his savings this month by $10

B Increase his allowance by $5

C Decrease his piano lessons by $5

D Decrease his entertainment costs by $10

28 Jonathan and Elizabeth are comparing the masses of their rocks.

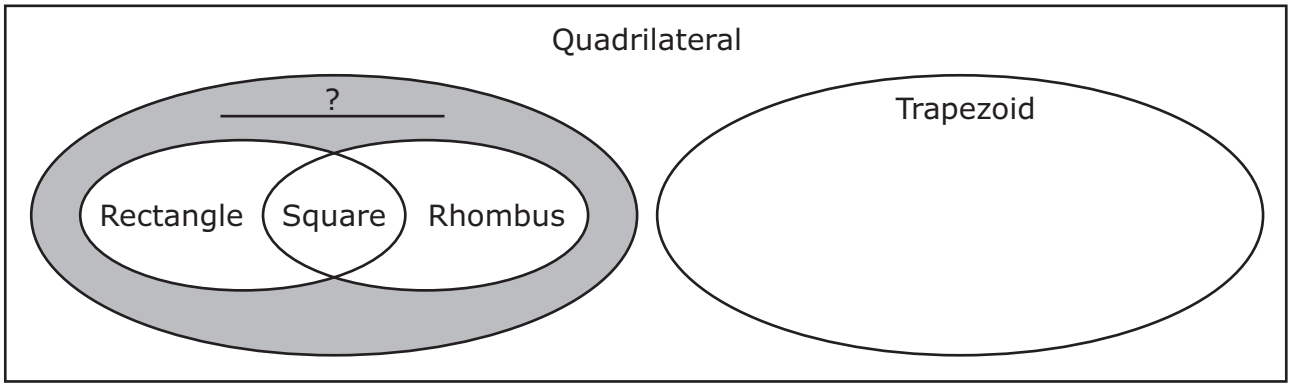
- Jonathan's rock has a mass of 0.2 kilogram.
- Elizabeth's rock has a mass 8 times the mass of Jonathan's rock.

What is the mass of Elizabeth's rock in kilograms?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

---

29 Quadrilaterals can be classified using the graphic organizer shown.



Which term best classifies the shapes that belong in the shaded section of the organizer?

A Parallelogram

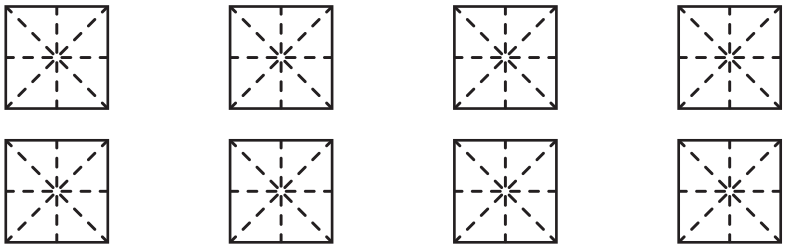
B Polygon

C Pentagon

D None of these

30 Which model represents the expression $4 \div \frac{1}{8}$?

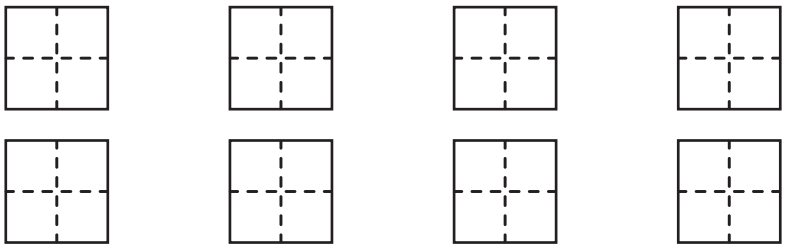
F



G

H

J



31 Amelia made this list of her monthly expenses.

Expenses

Category	Amount (dollars)
Food	400
Rent	850
Savings	150
Other	

Amelia's net income for the month is $2,135. How much money does she have for other expenses?

A $3,535

B $1,400

C $885

D $735

---

32 Shane spent $15.45 on a shirt, $21.99 on a pair of pants, and $12.15 on a hat. Which is the best estimate for the amount of money in dollars Shane spent?

F $40

G $50

H $70

J $60

33 Which expression has a value of 25?

A $2(32 + 18) \div 4$

B $(10 \times 10) \div (2 \div 2)$

C $(50 \times 10) \div 5$

D $(10 + 10) \div 4$

---

34 Harriett baked 3 cakes. She cut each cake into equal-size pieces. Each piece was $\frac{1}{9}$ of the cake.

What was the total number of pieces after Harriett cut these cakes?

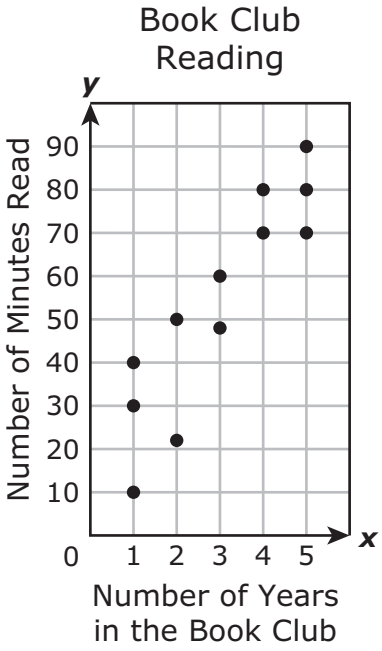
F 12

G 27

H 9

J 3

35 The scatterplot shows the number of minutes each student in a book club read during a week and the number of years the student has participated in the book club.



What is the total number of minutes read by the students who have participated in the book club for 4 or 5 years?

A 450

B 390

C 90

D 80

---

36 Landon had one string that was 10 meters long. He used 6.275 meters of this string for a project.

What was the length of string in meters that Landon had left?

F 16.275 m

G 4.275 m

H 3.725 m

J 6.265 m

BE SURE YOU HAVE RECORDED ALL OF YOUR ANSWERS ON THE ANSWER DOCUMENT.

STOP

STAAR
GRADE 5
Mathematics
May 2021