Item 3

Constructed-Response

Rita wants to find the number that is *3 times as large as the sum of 5 and 7.*

She writes this expression: 3 × 5 + 7.

Part A: Explain why Rita cannot use this expression to find the number.

Part B: How could Rita change the expression to find the correct number?

Item 4

Technology-Enhanced

Part A

Which expression represents the calculation "subtract 7 and 1, then divide by 3"?

A. $7 - 1 \div 3$
B. $3 \div (7 - 1)$
C. $(7 - 1) \div 3$
D. $7 - (1 \div 3)$

Part B

Which description is equivalent to $5 + (4 \times 2)$?

A. add 5 and 4, then multiply by 2
B. multiply 4 by 2, then add 5
C. multiply 5 by 2, then add 4
D. add 4 and 2, then multiply by 5

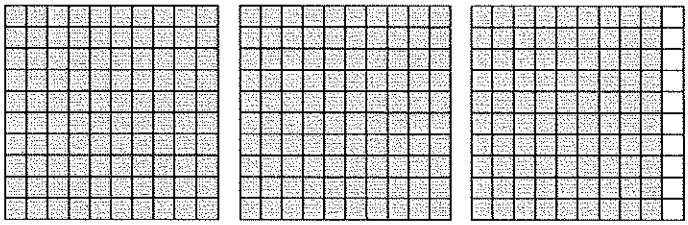
Sample Items 5–8

Item 5

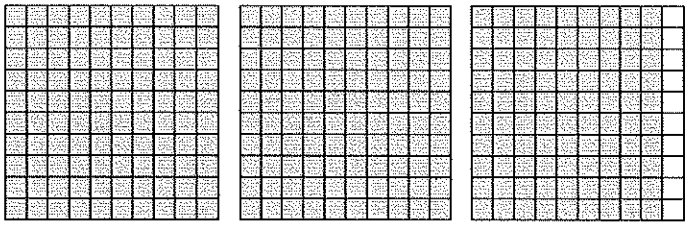
Extended Constructed-Response

Miguel, Jane, and Robert rode 8.7 miles in a bike relay race. They each rode the same distance. Jane shaded the models shown to determine how many miles each person rode. Each hundred model stands for 1 mile.

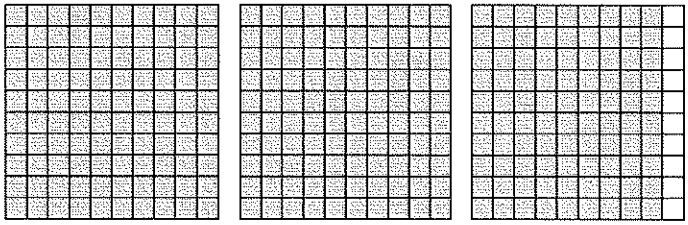
Miguel:



Jane:



Robert:



Part A: What is the total number of miles each person rode?

Part B: Explain how the models illustrate the problem and answer.

Item 6

Selected-Response

Which shows the decimal form for this expression?

$$8 \times \left(\frac{1}{10}\right) + 3 \times \left(\frac{1}{100}\right) + 9 \times \left(\frac{1}{1000}\right)$$

A. 0.0839
B. 0.839
C. 8.39
D. 83.9

Item 7

Selected-Response

What is 5.816 rounded to the nearest tenth?

A. 5.8
B. 5.82
C. 5.9
D. 6.00

Item 8

Technology-Enhanced

The mass of a quarter to be 5.67 grams and the mass of a half-dollar coin to be 11.34 grams.

Part A

Select TWO numbers that when rounded to the hundredths place will each make the inequality shown true.

$$5.67 < \_\_\_\_$$

A. 5.609
B. 5.762
C. 5.665
D. 5.098
E. 5.677
F. 5.045

Part B

Which number when rounded to the nearest tenth is less than 11.34 rounded to the nearest tenth?

A. 11.361
B. 11.283
C. 11.347
D. 11.249

Sample Items 9–11

Item 9

Selected-Response

Hannah multiplies 0.542 by powers of 10.

$$0.542 \times 10^1 = 5.42$$
$$0.542 \times 10^2 = 54.2$$
$$0.542 \times 10^3 = 542$$
$$0.542 \times 10^4 = 5{,}420$$

By what power of 10 would Hannah multiply 0.542 to get a product of 5,420,000?

A. 10^5

B. 10^6

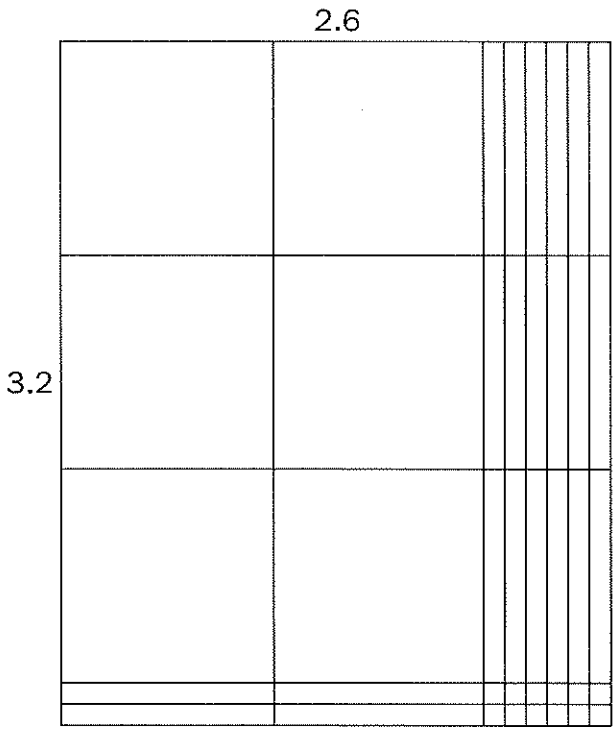
C. 10^7

D. 10^8

Item 10

Selected-Response

The area model illustrates the product of 2.6 × 3.2.



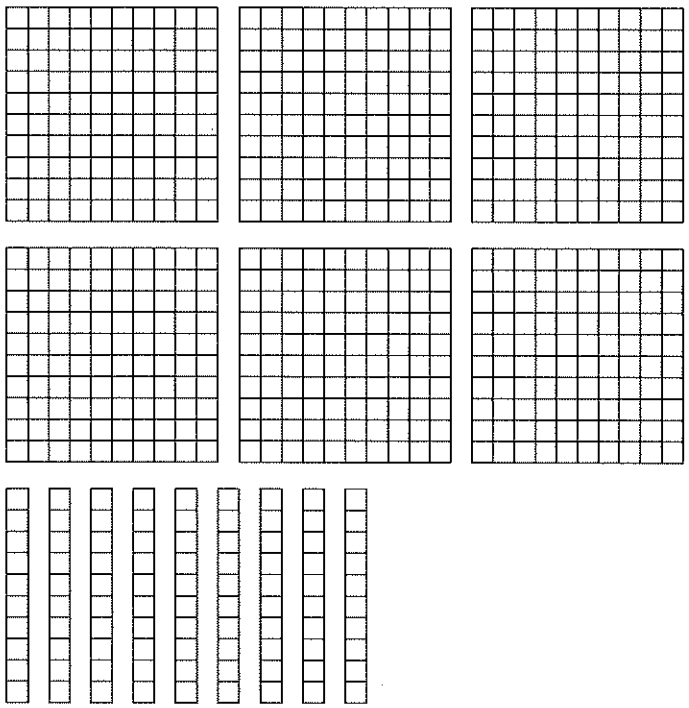
What is the product?

A. 6.232
B. 7.8
C. 8.32
D. 9.6

Item 11

Selected-Response

Ted is using a model to find the quotient of 6.9 ÷ 2.3. He starts by modeling the dividend, 6.9, as shown.



He will now separate the model into equal groups to model the division. How many equal groups of 2.3 should he make?

A. 0.3
B. 3
C. 30
D. 300

Sample Items 12–14

Item 12

Selected-Response

A teacher has a 60-pound bag of sand. She pours all the sand into 8 buckets. She puts an equal amount of sand in each bucket. What is the total amount of sand in each bucket?

A. $\frac{2}{15}$ pounds

B. $6\frac{1}{2}$ pounds

C. $7\frac{1}{2}$ pounds

D. $8\frac{1}{2}$ pounds

Item 13

Selected-Response

What is the difference of these fractions?

$$1\frac{5}{8} - \frac{2}{3}$$

A. $\frac{2}{24}$

B. $\frac{16}{24}$

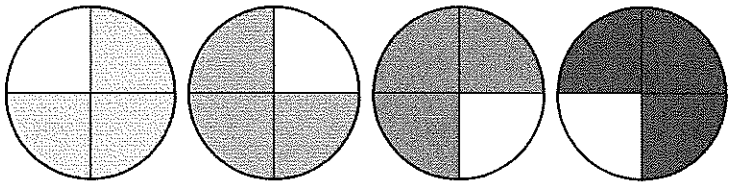
C. $\frac{23}{24}$

D. $\frac{11}{5}$

Item 14

Selected-Response

Four students each draw a circle. They each shade $\frac{3}{4}$ of their circles, as shown.



Which equation shows how much of the circles are shaded altogether?

A. $4 \times \frac{1}{4} = \frac{4}{4} = 1$

B. $4 \times \frac{3}{4} = \frac{7}{4} = 1\frac{3}{4}$

C. $4 \times \frac{3}{4} = \frac{3}{16}$

D. $4 \times \frac{3}{4} = \frac{12}{4} = 3$

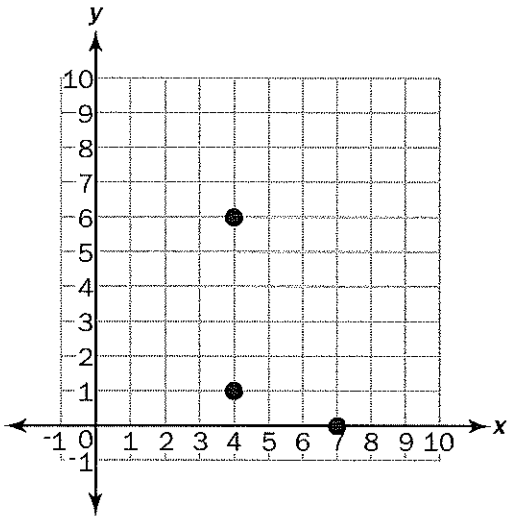
Sample Items 15–17

Item 15

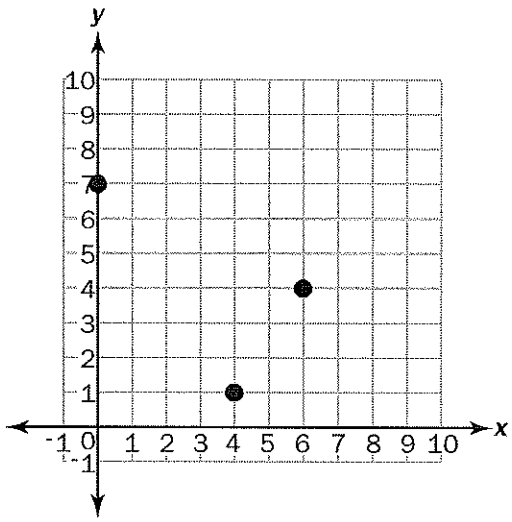
Selected-Response

Which graph shows the points (1, 4), (7, 0), and (4, 6)?

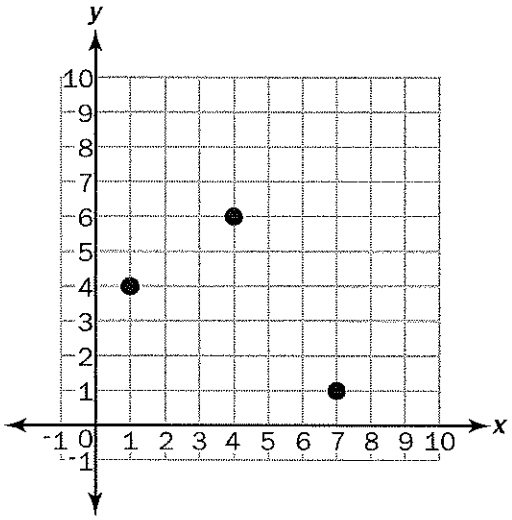
A.



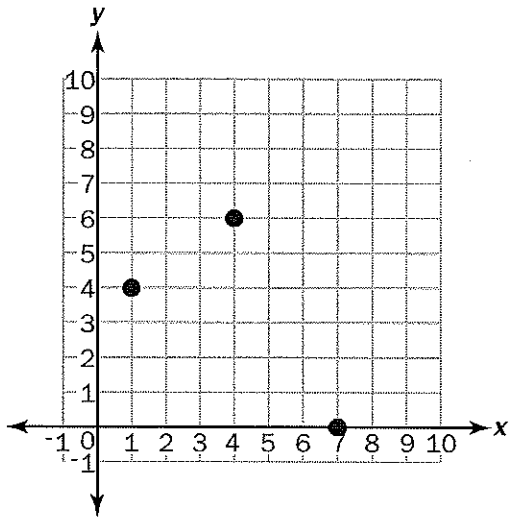
B.



C.



D.



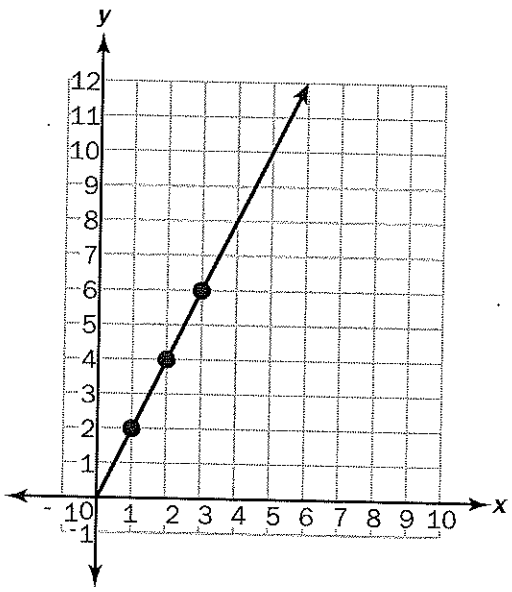
Item 16

Constructed-Response

Kirk wants to show two number patterns on a coordinate grid.

Use the coordinate grid and the table to help Kirk show his patterns.

Row	x	y
A	1	___
B	___	4
C	3	6
D	___	___
E	___	___



Part A: Identify the missing numbers in the table and write each row as an ordered pair.

Row A: (1, _____)

Row B: (_____, 4)

Row C: (3, 6)

Row D: (_____, _____)

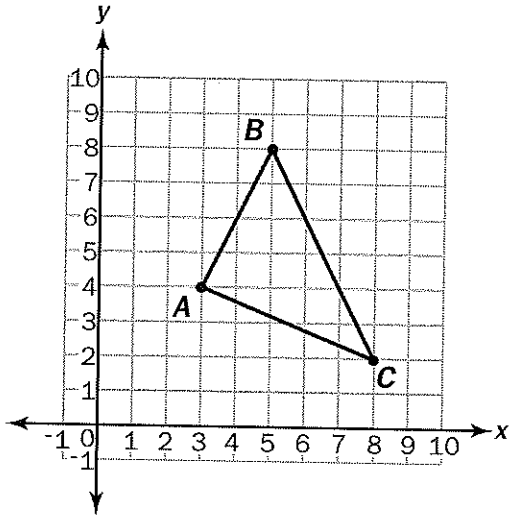
Row E: (_____, _____)

Part B: Describe the relationship between the *x*-values and the *y*-values that are in the same row of the table.

Item 17

Selected-Response

Felipe made a triangle on a coordinate grid.



What are the coordinates for point *C*?

A. (3, 4)
B. (5, 8)
C. (8, 2)
D. (2, 8)

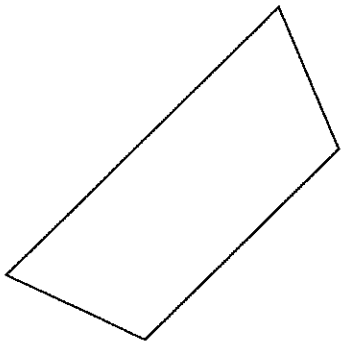
Sample Items 18–21

Item 18

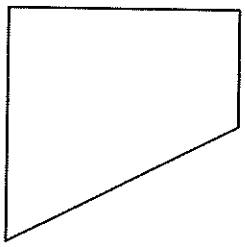
Selected-Response

Which figure has four right angles?

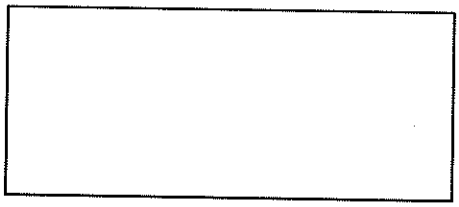
A.



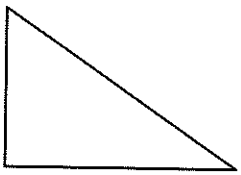
B.



C.



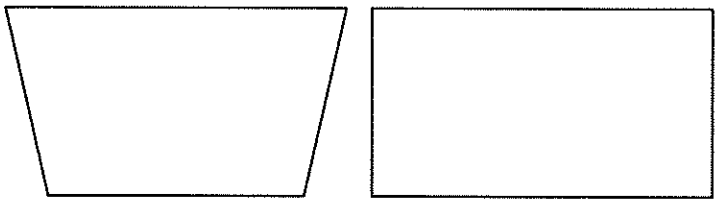
D.



Item 19

Selected-Response

What attributes do these two figures have in common?

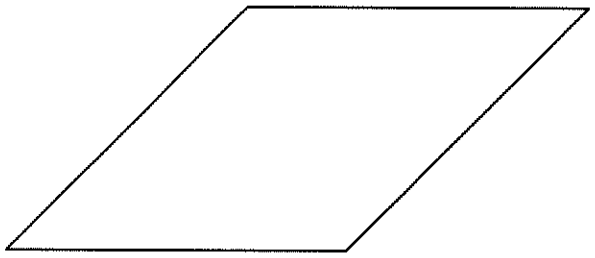


A. Both figures have four right angles.
B. Both figures have two pairs of equal sides.
C. Both figures have two pairs of parallel sides.
D. Both figures have at least one pair of parallel sides.

Item 20

Extended Constructed-Response

Look at this figure.



Part A: Name the type of figure shown.

Part B: Explain why you gave the figure this name.

Part C: What other name could you give this figure?

Item 21

Technology-Enhanced

Greg wants to rent a warehouse to store his company's lumber. The warehouse must have a volume of at least 5,000 cubic meters but no more than 8,000 cubic meters.

Select THREE sets of dimensions that meet Greg's requirements for the volume of a warehouse.

($V = l \times w \times h$)

A. 20 meters wide, 15 meters long, 13 meters high
B. 18 meters wide, 18 meters long, 15 meters high
C. 25 meters wide, 20 meters long, 15 meters high
D. 22 meters wide, 28 meters long, 10 meters high
E. 30 meters wide, 20 meters long, 15 meters high
F. 35 meters wide, 15 meters long, 15 meters high

Sample Items 22–24

Item 22

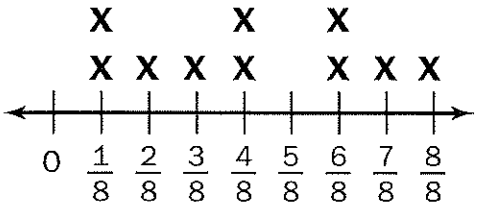
Selected-Response

Ten students measured the amount of water in their water bottles. Here are the measurements found in liters:

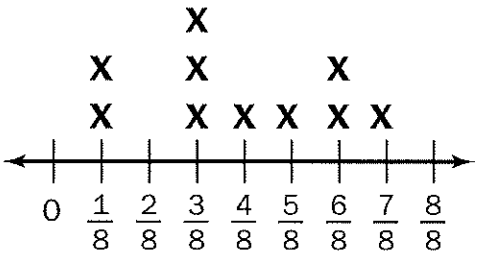
$$\frac{5}{8}, \frac{3}{8}, \frac{1}{8}, \frac{3}{8}, \frac{6}{8}, \frac{3}{8}, \frac{1}{8}, \frac{7}{8}, \frac{6}{8}, \frac{4}{8}$$

Which line plot shows the data?

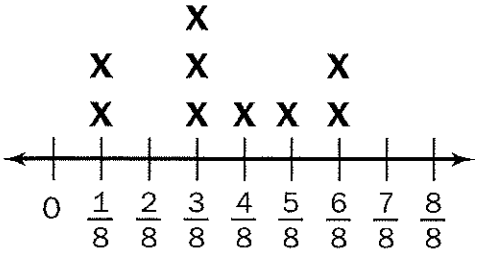
A.



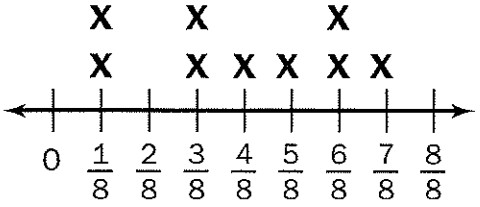
B.



C.



D.



Item 23

Constructed-Response

Ms. Reyes wants to display three students' paintings on a wall. The lengths of the paintings are 54 inches, 3.5 feet, and 1 yard.

Unit Conversions
1 yard = 3 feet
1 foot = 12 inches

Part A: What is the total length of the paintings, in feet? Explain your answer.

Total length of paintings: _____ feet

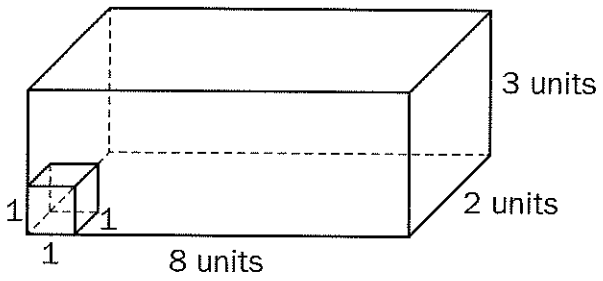
Part B: What is the total length of the paintings, in inches? Explain your answer.

Total length of paintings: _____ inches

Item 24

Selected-Response

Find the volume of the rectangular prism using the formula Volume = (area of base) × (height).



What is the maximum number of unit cubes that will fit inside the rectangular prism?

A. 6
B. 16
C. 24
D. 48