# STAAR®

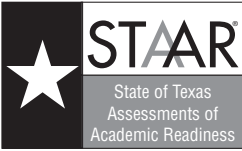State of Texas
Assessments of
Academic Readiness

# GRADE 5
## Mathematics

# Administered March 2017

# RELEASED

# 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 | $V = Bh$ |
|---|---|---|---|
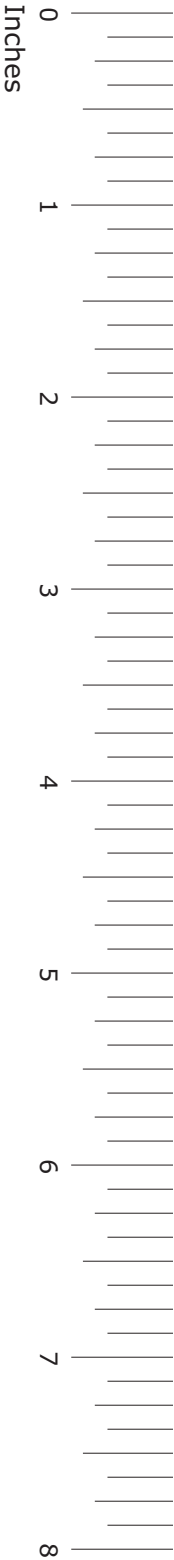
Inches
0
1
2
3
4
5
6
7
8

# 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) |

Centimeters
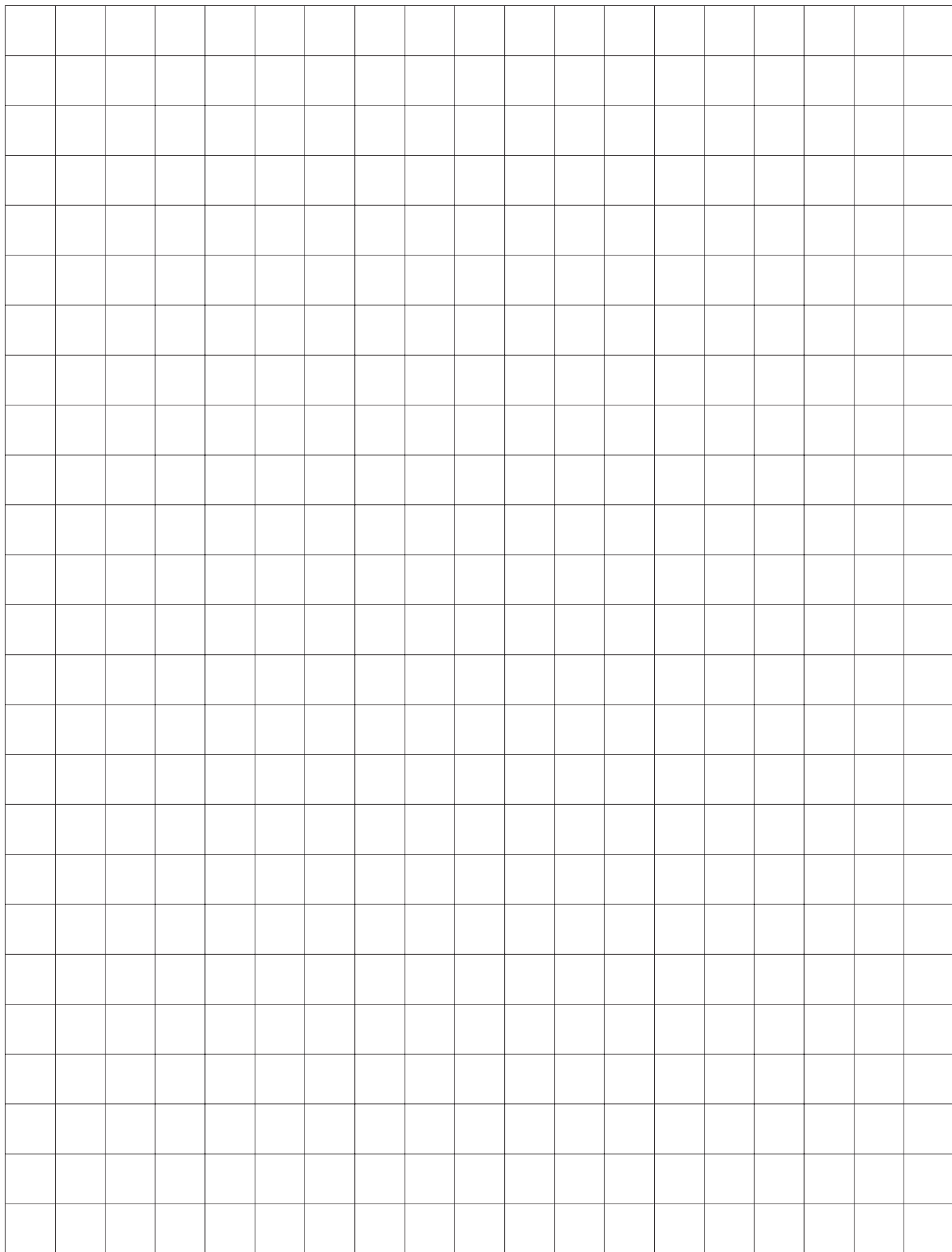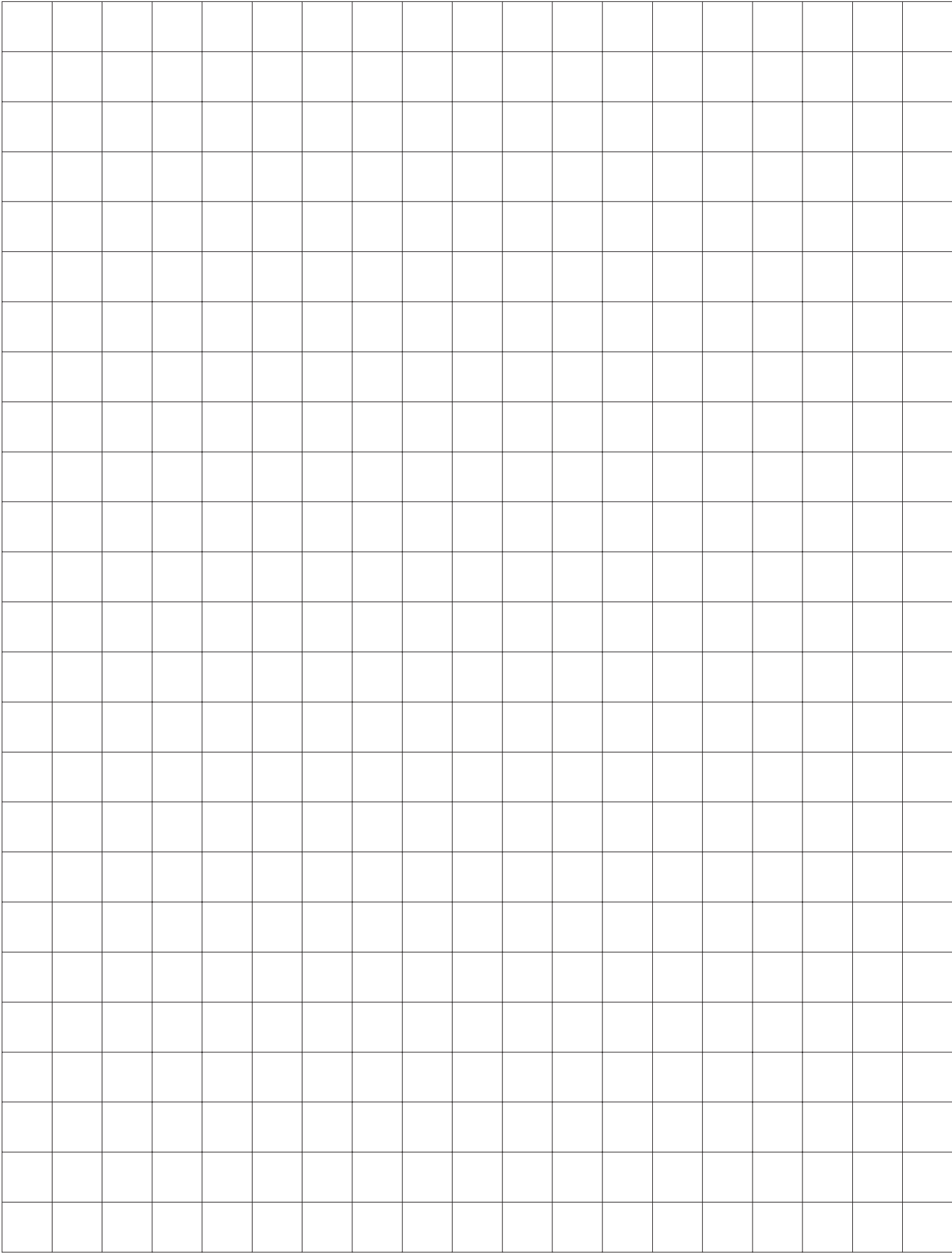
**DIRECTIONS**

**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** Amber saved a total of $3.20 over 5 weeks. She saved the same amount of money each week. How much money did Amber save each week?

   **A** $1.44

   **B** $1.56

   **C** $0.64
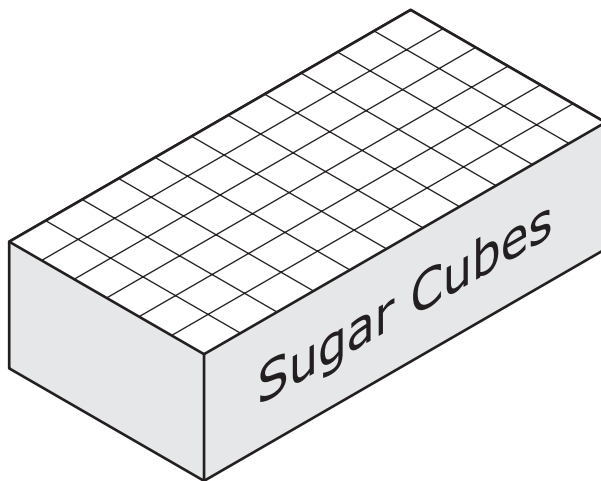
   **D** $1.80

---

**2** A scientist compared these two measurements.

$$13.068 \text{ kg} \quad \boxed{\phantom{x}} \quad 13.608 \text{ kg}$$

Which symbol makes this comparison true?

   **F** $>$

   **G** $<$

   **H** $=$

   **J** $+$

**3** Emily has a box shaped like a rectangular prism that is full of sugar cubes.

- Each sugar cube has a volume of 1 cubic centimeter.
- The top layer has a width of 6 cm and a length of 11 cm.
- There are 3 layers of sugar cubes.



How many sugar cubes are in the box?

**A** 198

**B** 66

**C** 594

**D** 99

**4** The shaded part of the model represents a fraction. Another fraction was subtracted from the first fraction.
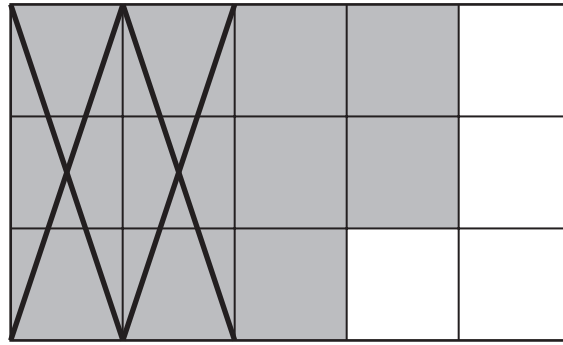


Which expression does the model represent?

**F** $\dfrac{11}{15} - \dfrac{1}{6}$

**G** $\dfrac{11}{12} - \dfrac{6}{12}$

**H** $\dfrac{6}{15} - \dfrac{4}{15}$

**J** $\dfrac{11}{15} - \dfrac{2}{5}$

GO ON

**5** The relationship between numbers in List X and List Y follows the rule $y = x + 2.05$. Which diagram shows this relationship?

**A**

| List X | | List Y |
|---|---|---|
| 29.1 | → | 31.6 |
| 34.1 | → | 36.6 |
| 39.1 | → | 41.6 |
| 44.1 | → | 46.6 |

**C**

| List X | | List Y |
|---|---|---|
| 29.1 | → | 31.15 |
| 34.1 | → | 36.15 |
| 39.1 | → | 41.15 |
| 44.1 | → | 46.15 |

**B**

| List X | | List Y |
|---|---|---|
| 31.15 | → | 33.15 |
| 33.2 | → | 35.2 |
| 35.25 | → | 37.25 |
| 37.3 | → | 39.3 |

**D**

| List X | | List Y |
|---|---|---|
| 31.15 | → | 29.1 |
| 36.15 | → | 34.1 |
| 41.15 | → | 39.1 |
| 46.15 | → | 44.1 |

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**6** A rectangular billboard is 9.35 meters wide and 6.82 meters tall. What is the perimeter of the billboard in meters?

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

**7** The stem and leaf plot shows the numbers of minutes the members of a team jumped rope during practice.

Practice Times

| Stem | Leaf |
|------|------|
| 1 | 9 9 |
| 2 | 0 1 3 |
| 3 | 3 4 6 7 |
| 4 | 1 1 3 5 9 9 |
| 5 | 0 4 2 |
| 6 | 3 5 6 |

3|6 means 36 minutes.

What is the difference between the least number of minutes jumped and the greatest number of minutes jumped?

**A** 47

**B** 9

**C** 5

**D** 49

**8** The math team does practice drills that each last $\frac{1}{6}$ hour. In February the team did practice drills for a total of 24 hours.

How many practice drills did the math team do in February?

**F** 4

**G** 144

**H** 30

**J** 240

**9** What are the coordinates of the point where the *x*-axis and the *y*-axis intersect on a coordinate plane?

   **A** (5, 5)

   **B** (5, 0)

   **C** (0, 5)

   **D** (0, 0)

---

**10** The table shows the heights and masses of a male gorilla and a female gorilla at a zoo.

Gorillas

|        | Height (m) | Mass (kg) |
|--------|------------|-----------|
| Male   | 1.68       | 158.757   |
| Female | 1.448      | 95.25     |

Based on the table, which statement is true?

   **F** The combined mass of the male gorilla and the female gorilla is 253.782 kg.

   **G** The mass of the male gorilla is 63.507 kg greater than the mass of the female gorilla.

   **H** The female gorilla is 1.28 m shorter than the male gorilla.

   **J** The combined height of the male gorilla and the female gorilla is 2.028 m.

**11** Thomas planted a seed and measured the height of the stem each week for four weeks.

- The stem grew 1 inch in the first week.
- The stem grew 2 inches each week after the first week.

Which graph represents the growth of this plant?

Plant Growth

A

Plant Growth

C

Plant Growth

B

Plant Growth

D
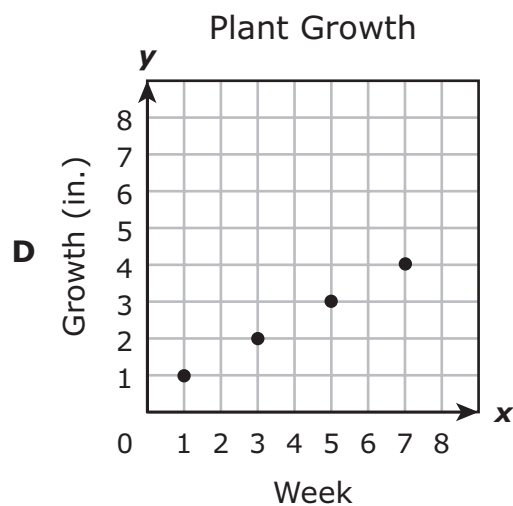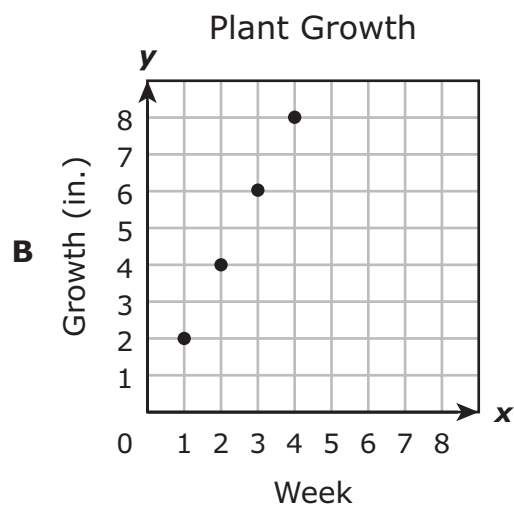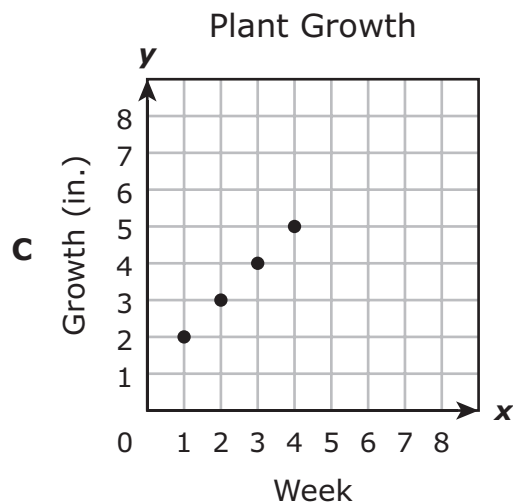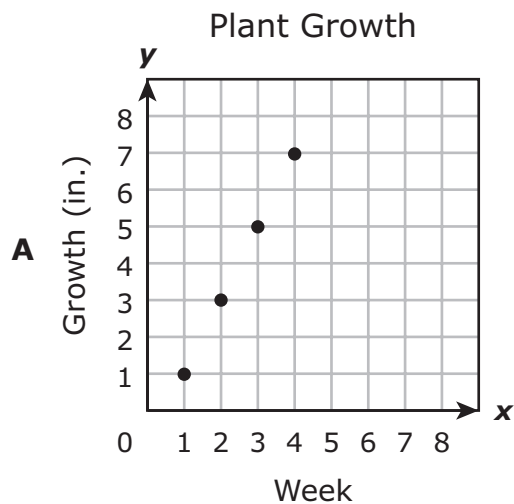
**12** Aspen added 14 to the product of 224 and 16. What is this sum?

    **F** 3,478

    **G** 3,598

    **H** 3,808

    **J** 3,584

---

**13** Brenda said that the number 2 is prime because it has only two factors. Carla said that the number 2 is composite because it is even, and all even numbers are composite. Who is correct?

    **A** Brenda is correct.

    **B** Carla is correct.

    **C** Both of them are correct.

    **D** Neither of them is correct.

---

**14** Theo earned $500 selling food at a carnival. He earned $260 selling nachos and the rest selling hot dogs for $2 each. Theo used this equation to find $h$, the number of hot dogs he sold at the carnival.

$$h = (500 - 260) \div 2$$

How many hot dogs did Theo sell at the carnival?

    **F** 380

    **G** 180

    **H** 370

    **J** 120

GO ON

**15** In the diagram shown each circle represents a group of polygons. If a polygon belongs in a circle, it also belongs in any larger circle.
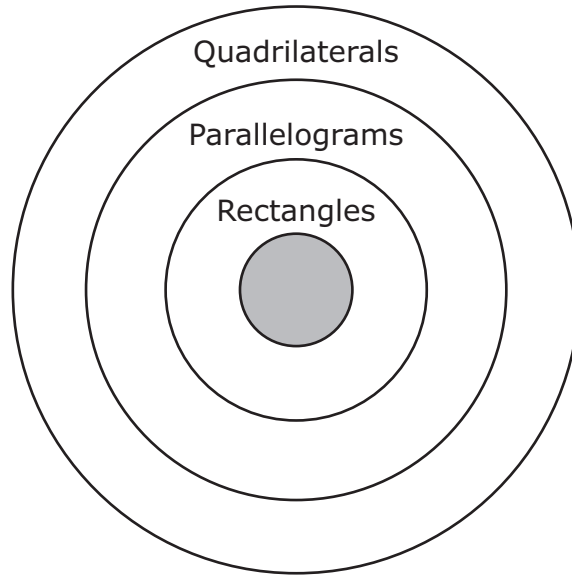


Which kind of polygon belongs in the shaded circle?

**A** Trapezoids

**B** Squares

**C** Pentagons

**D** Rhombuses

---

**16** Margaret opened a new case of lightbulbs.

- The case contained 3 boxes of lightbulbs with 8 lightbulbs in each box.
- Margaret threw 2 of these lightbulbs in the trash because they were damaged.
- Then she took 7 of the lightbulbs out of the case.

Which expression can be used to show that there are 15 lightbulbs still in the case?

**F** $3 \times 8 - 2 + 7$

**G** $3(8) - 2(7)$

**H** $3 \times 8 - (2 + 7)$

**J** $3 + 8 - 2 + 7$

**17** Mia's dog weighs 32.6 pounds. Lettie's dog weighs 3.8 times as much as Mia's dog. What does Lettie's dog weigh in pounds?

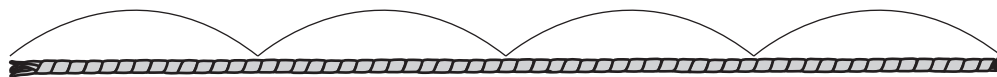**A** 36.40 lb

**B** 12.388 lb

**C** 96.48 lb

**D** 123.88 lb

**18** Mr. Ávalos has 9.375 liters of paint. What is this number rounded to the nearest hundredth?

**F** 9.40

**G** 9.38

**H** 9.37

**J** 9.47

GO ON

**19** The length of a piece of yarn is 19.2 units. Jesse cut the piece of yarn into 4 smaller pieces that were all the same length.

Which expression represents the length of each smaller piece of yarn?

**A** $19.2 \times 4$

**B** $19.2 - 4$

**C** $19.2 \div 4$

**D** $19.2 + 4$

---

**20** A definition of a financial term is shown in the box.

A tax that includes Social Security and Medicare taxes and is paid by an employer

Which term best fits this definition?

**F** Payroll tax

**G** Property tax

**H** Sales tax

**J** Gasoline tax

**21** A park bench is located $16\frac{3}{4}$ feet due north of an elm tree. A fountain is located $9\frac{1}{2}$ feet due south of the same elm tree.

What is the distance in feet between the park bench and the fountain?

**A** $26\frac{1}{4}$ ft

**B** $25\frac{1}{4}$ ft

**C** $25\frac{2}{3}$ ft

**D** 26 ft

---

**22** In a school auditorium there are 33 seats in each row of seats. How many rows are needed for 528 students to each have a seat?

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

**23** Nathan built the hanging mobile shown in the picture to show some relationships among shapes.
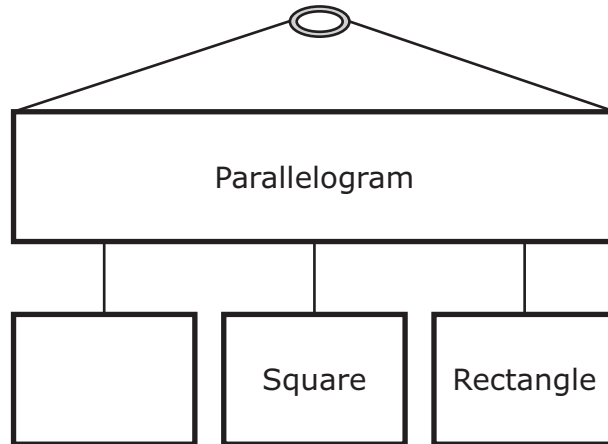


Which shape goes in the empty box in order to complete Nathan's mobile?

**A** Trapezoid

**B** Quadrilateral

**C** Rhombus

**D** Triangle

**24** Which table represents the equation $y = 3x$?

**F**

| x | y |
|---|---|
| 3 | 1 |
| 6 | 2 |
| 15 | 5 |
| 18 | 6 |

**H**

| x | y |
|---|---|
| 1 | 1 |
| 3 | 3 |
| 5 | 5 |
| 7 | 7 |

**G**

| x | y |
|---|---|
| 1 | 3 |
| 3 | 9 |
| 4 | 12 |
| 7 | 21 |

**J**

| x | y |
|---|---|
| 1 | 3 |
| 4 | 9 |
| 6 | 12 |
| 7 | 18 |

**25** Which list shows the numbers NOT in order from least to greatest?

**A** $4.036 < 4.08 < 4.2 < 4.201$

**B** $3.09 < 3.1 < 3.607 < 3.9$

**C** $6.4 < 6.51 < 6.387 < 6.995$

**D** $7.315 < 7.38 < 7.406 < 7.5$

**26** Mr. Gonzales is putting in a fence around the perimeter of a playground.

- The perimeter of the playground is 144 ft.
- Each section of the fence is 4 ft long and costs $12.

Which equation can Mr. Gonzales use to find $b$, the cost of the sections of fence he needs for the playground?

**F** $144 \div (12 \div 4) = b$

**G** $(12 \times 4) \times 144 = b$

**H** $144 \div (12 \times 4) = b$

**J** $(144 \div 4) \times 12 = b$

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**27** Gabriel bought a dog crate shaped like a rectangular prism with the dimensions shown in the model.



30 in.

36 in.

24 in.
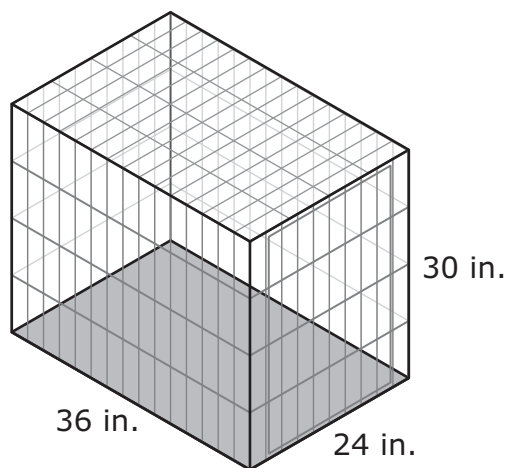
What is the area in square inches of the shaded floor of the dog crate?

**A** 864 square inches

**B** 1,080 square inches

**C** 720 square inches

**D** 1,296 square inches

**28** The graph shows the number of students at five schools who ride the bus to school.

### Riding the Bus to School
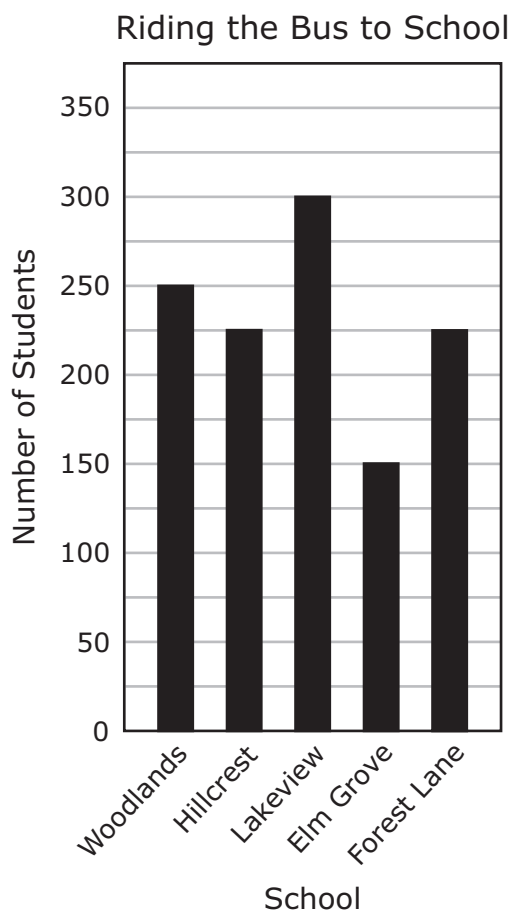


Based on the graph, how many students ride the bus to the Woodlands, Hillcrest, and Lakeview schools?

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

**29** Ms. Olsen has $\frac{1}{8}$ acre of land divided into 6 equal parts. What is the size of each part?

**A** $\frac{1}{2}$ acre

**B** $\frac{1}{14}$ acre

**C** $\frac{3}{4}$ acre

**D** $\frac{1}{48}$ acre

---

**30** The table shows the heights of 10 seedlings.

Heights of Seedlings

| Seedling | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| Height (in.) | $1\frac{1}{4}$ | 2 | $1\frac{1}{4}$ | $1\frac{1}{2}$ | $\frac{3}{4}$ | $2\frac{1}{4}$ | $1\frac{1}{2}$ | $1\frac{1}{2}$ | 1 | 2 |

Which dot plot represents these data?

**F**



Heights of Seedlings
Height (in.)

**H**



Heights of Seedlings
Height (in.)

**G**



Heights of Seedlings
Height (in.)

**J**



Heights of Seedlings
Height (in.)

GO ON
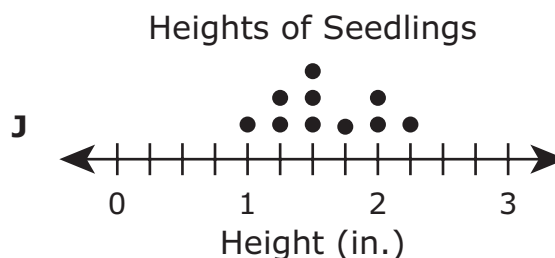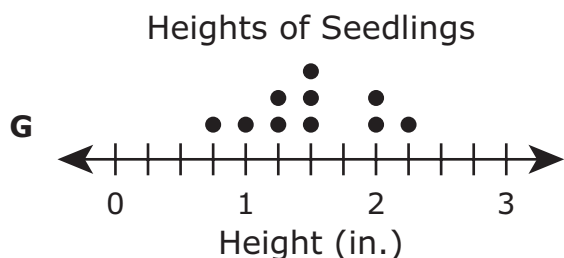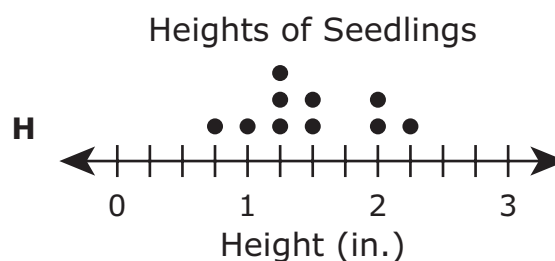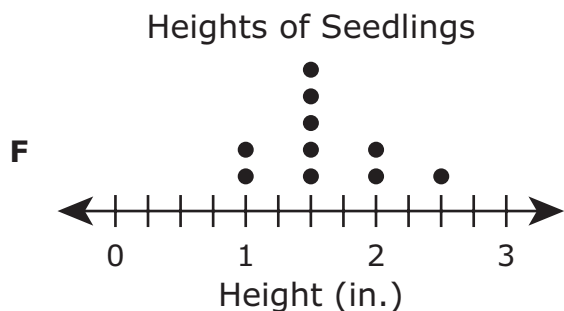
**31** The list shows the length of a day on two different planets.

- Neptune: 16.11 hours
- Venus: 5,832.40 hours

Which statement is best supported by this information?

**A** A day on Venus is about 40 times as long as a day on Neptune.

**B** A day on Venus is about 400 times as long as a day on Neptune.

**C** A day on Venus is about 50 times as long as a day on Neptune.

**D** A day on Venus is about 500 times as long as a day on Neptune.

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**32** An expression is shown.

$$8 \times (3.8 + 13.2) - 6$$
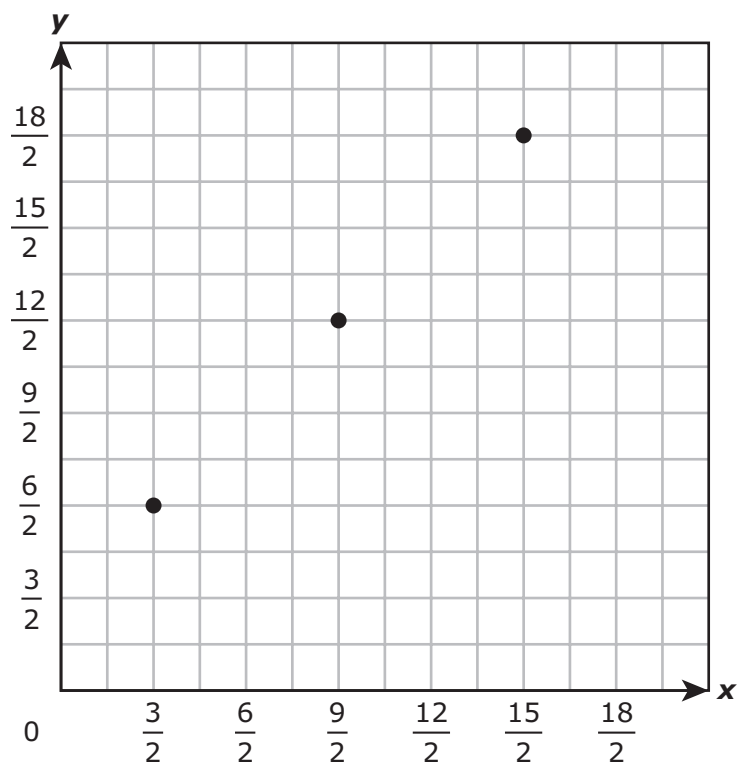
What value is equivalent to the expression?

**F** 37.6

**G** 61.4

**H** 130

**J** 88

---

**33** Ms. Sikes paid a total of $95.40 for a 12-month magazine subscription. She paid the same amount each month. What amount did Ms. Sikes pay each month?

**A** $7.95

**B** $7.96

**C** $1,144.80

**D** $107.40

**34** Three points are plotted on the coordinate grid.



Which table represents the data plotted in the graph?

**F**

| $x$ | $\frac{6}{2}$ | $\frac{12}{2}$ | $\frac{18}{2}$ |
|---|---|---|---|
| $y$ | $\frac{3}{2}$ | $\frac{9}{2}$ | $\frac{15}{2}$ |

**H**

| $x$ | $\frac{3}{2}$ | $\frac{6}{2}$ | $\frac{9}{2}$ |
|---|---|---|---|
| $y$ | $\frac{6}{2}$ | $\frac{12}{2}$ | $\frac{18}{2}$ |

**G**

| $x$ | $\frac{3}{2}$ | $\frac{9}{2}$ | $\frac{15}{2}$ |
|---|---|---|---|
| $y$ | $\frac{6}{2}$ | $\frac{12}{2}$ | $\frac{15}{2}$ |

**J**

| $x$ | $\frac{3}{2}$ | $\frac{9}{2}$ | $\frac{15}{2}$ |
|---|---|---|---|
| $y$ | $\frac{6}{2}$ | $\frac{12}{2}$ | $\frac{18}{2}$ |

**35** Mr. Roosevelt has 48 nails that each weigh 1.35 ounces. What is the weight of these nails in ounces?

**A** 50.4 oz

**B** 40.4 oz

**C** 64.8 oz

**D** 16.2 oz

---

**36** The shaded cube has a volume of 1 cubic unit. Cubes like this one will be used to completely fill a rectangular prism that has the dimensions shown.



= 1 cubic unit

6 units

8 units

10 units
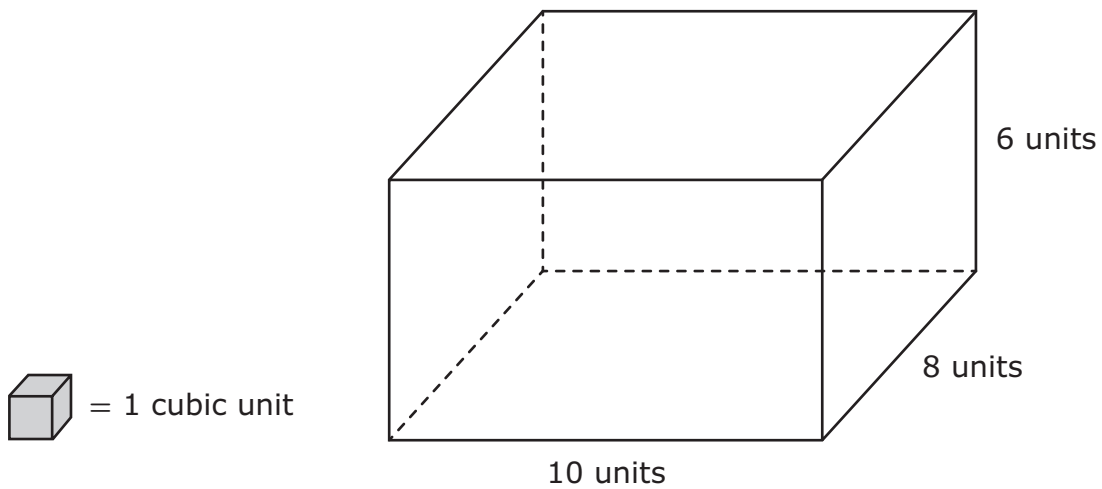
How many of these shaded cubes will be needed to completely fill the rectangular prism?

**F** 48

**G** 80

**H** 160

**J** Not here

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

**STOP**

| Item Number | Reporting Category | Readiness or Supporting | Content Student Expectation | Correct Answer |
|---|---|---|---|---|
| 1 | 2 | Readiness | 5.3(G) | C |
| 2 | 1 | Readiness | 5.2(B) | G |
| 3 | 3 | Supporting | 5.6(B) | A |
| 4 | 2 | Supporting | 5.3(H) | J |
| 5 | 2 | Readiness | 5.4(C) | C |
| 6 | 3 | Readiness | 5.4(H) | 32.34 |
| 7 | 4 | Readiness | 5.9(C) | A |
| 8 | 2 | Readiness | 5.3(L) | G |
| 9 | 3 | Supporting | 5.8(A) | D |
| 10 | 2 | Readiness | 5.3(K) | G |
| 11 | 3 | Readiness | 5.8(C) | A |
| 12 | 2 | Supporting | 5.3(B) | G |
| 13 | 1 | Supporting | 5.4(A) | A |
| 14 | 2 | Readiness | 5.4(B) | J |
| 15 | 3 | Readiness | 5.5(A) | B |
| 16 | 1 | Readiness | 5.4(F) | H |
| 17 | 2 | Readiness | 5.3(E) | D |
| 18 | 1 | Supporting | 5.2(C) | G |
| 19 | 2 | Supporting | 5.3(F) | C |
| 20 | 4 | Supporting | 5.10(A) | F |
| 21 | 2 | Readiness | 5.3(K) | A |
| 22 | 2 | Supporting | 5.3(C) | 16 |
| 23 | 3 | Readiness | 5.5(A) | C |
| 24 | 2 | Readiness | 5.4(C) | G |
| 25 | 1 | Readiness | 5.2(B) | C |
| 26 | 2 | Readiness | 5.4(B) | J |
| 27 | 3 | Readiness | 5.4(H) | A |
| 28 | 4 | Readiness | 5.9(C) | 775 |
| 29 | 2 | Readiness | 5.3(L) | D |
| 30 | 4 | Supporting | 5.9(A) | G |
| 31 | 2 | Supporting | 5.3(A) | B |
| 32 | 1 | Readiness | 5.4(F) | H |
| 33 | 2 | Readiness | 5.3(G) | A |
| 34 | 3 | Readiness | 5.8(C) | J |
| 35 | 2 | Readiness | 5.3(E) | C |
| 36 | 3 | Supporting | 5.6(A) | J |

| Item # | Response A/F | Response B/G | Response C/H | Response D/J |
|---|---|---|---|---|
| 1 | A is incorrect because 3.20 ÷ 5 = 0.64, not 1.44. | B is incorrect because 3.20 ÷ 5 = 0.64, not 1.56. | C is correct because 3.20 ÷ 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 x 11 x 3 = 198. | B is incorrect because 6 x 11 = 66 and does not include multiplying by 3 layers of sugar cubes. | C is incorrect because 6 x 11 x 3 = 198, not 594. | D is incorrect because the volume is 6 x 11 x 3 = 198, not (6 x 11) + (3 x 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 x 2) + (6.82 x 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 ÷ 1/6 = 144. | H is incorrect because 24 should be divided by 1/6, not added to 6. | J is incorrect because 24 ÷ 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 = 63.507. | 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 x 16) + 14 = 3,598, not 3,478. | G is correct because (224 x 16) + 14 = 3,598. | H is incorrect because (224 x 16) + 14 = 3,598, not 3,808. | J is incorrect because (224 x 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) ÷ 2 = 120, not 380. | G is incorrect because (500 - 260) ÷ 2 = 120, not 180. | H is incorrect because (500 - 260) ÷ 2 = 120, not 370. | J is correct because (500 - 260) ÷ 2 = 120. |

| Item # | Response A/F | Response B/G | Response C/H | Response D/J |
|---|---|---|---|---|
| 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 x 38 - 2 + 7 = 29, not 15. | G is incorrect because 3(8) - 2(7) = 10, not 15. | H is correct because 3 x 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 x 3.8 = 123.88, not 12.388. | C is incorrect because 32.6 x 3.8 = 123.88, not 96.48. | D is correct because 32.6 x 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 ÷ 4, not 19.2 x 4. | B is incorrect because the larger piece is divided into smaller pieces which is represented by 19.2 ÷ 4, not 19.2 - 4. | C is correct because the larger piece is divided into smaller pieces which is represented by 19.2 ÷ 4. | D is incorrect because the larger piece is divided into smaller pieces which is represented by 19.2 ÷ 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 3/4 + 9 1/2 = 26 1/4. | B is incorrect because 16 3/4 + 9 1/2 = 26 1/4, not 25 1/4. | C is incorrect because 16 3/4 + 9 1/2 = 26 1/4, not 25 2/3. | D is incorrect because 16 3/4 + 9 1/2 = 26 1/4, not 26. |
| 22 | F; 16 is correct because 528 ÷ 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 ÷ 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 x 24 = 864. | B is incorrect because the area is 36 x 24 = 864, not 36 x 30 = 1,080. | C is incorrect because the area is 36 x 24 = 864, not 24 x 30 = 720. | D is incorrect because the area is 36 x 24 = 864, not 1,296. |
| 28 | F; 775 is correct because 250 + 225 + 300 = 775. | G; Students may have added different combinations of schools. | | |

| Item # | Response A/F | Response B/G | Response C/H | Response D/J |
|---|---|---|---|---|
| 29 | A is incorrect because 1/8 ÷ 6 = 1/48, not 1/2. | B is incorrect because 1/8 ÷ 6 = 1/48, not 1/14. | C is incorrect because 1/8 ÷ 6 = 1/48, not 3/4. | D is correct because 1/8 ÷ 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 x 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 x 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 x 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 x 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 x (3.8 + 13.2) - 6 = 130, not 37.6. | G is incorrect because 8 x (3.8 + 13.2) - 6 = 130, not 61.4. | H is correct because 8 x (3.8 + 13.2) - 6 = 130. | J is incorrect because 8 x (3.8 + 13.2) - 6 = 130, not 88. |
| 33 | A is correct because 95.40 ÷ 12 = 7.95. | B is incorrect because 95.40 ÷ 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 x 1.35 = 64.8, not 50.4. | B is incorrect because 48 x 1.35 = 64.8, not 40.4. | C is correct because 48 x 1.35 = 64.8. | D is incorrect because 48 x 1.35 = 64.8, not 16.2. |
| 36 | F is incorrect because the volume is 10 x 8 x 6 = 480, not 8 x 6 = 48. | G is incorrect because the volume is 10 x 8 x 6 = 480, not 10 x 8 = 80. | H is incorrect because the volume is 10 x 8 x 6 = 480, not 160. | J is correct because the volume is 10 x 8 x 6 = 480, which is not here. |