

DIRECTIONS Read each question. Then circle the letter for the correct answer.

- 1 Harriet walked 0.63 mile to warm up. Then she jogged 5.18 miles. She then walked 0.7 mile to cool down. How much farther did Harriet jog than walk?
- A** 3.85 miles
B 4.33 miles
C 4.48 miles
D 6.51 miles
-
- 2 From the trail head, the waterfall is $\frac{4}{5}$ mile, and then the eagle's nest is $\frac{3}{4}$ mile farther. From there, it is $1\frac{3}{8}$ miles back to the trail head. How long is the trail?
- F** $\frac{7}{40}$ mile
G $2\frac{7}{40}$ miles
H 3 miles
J $2\frac{37}{40}$ miles
-
- 3 At West School, there are 7 boys for every 8 girls. If there are 360 students at the school, how many of them are boys?
- A** 168 boys
B 192 boys
C 210 boys
D 315 boys

- 4 The recipe for a cake says to bake it at a temperature of 360°F . What is this temperature in $^{\circ}\text{C}$?
Use $^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times \frac{5}{9}$.
- F** 168°C
- G** 182.2°C
- H** 217.8°C
- J** 232°C
-
- 5 Working on their math homework for 15 minutes, Quinn finished 48% of the assignment, Rachel finished $\frac{5}{11}$ of the assignment, Sam finished 0.45 of the assignment, and Terry finished $\frac{7}{15}$ of the assignment. Which student had the most left to complete?
- A** Quinn
- B** Rachel
- C** Sam
- D** Terry
-
- 6 Samantha bought two pairs of pants for $\$14.99$ each. She had a coupon for 20% off her entire purchase, and the sales tax rate was 7.5%. The cashier said that she owed $\$29.01$. What was Samantha's response?
- F** "That sounds about right."
- G** "Are you sure? I think the total should be over $\$32.00$."
- H** "That's not right. The total should be between $\$25$ and $\$26$."
- J** "That's not right. The total should be less than $\$15$."
-
- 7 The quotient of two numbers is -12 . One of the numbers is -3 . What is the other number?
- A** -36
- B** -4
- C** 4
- D** 36

8 A piece of paper is 0.0038 inch thick. What is this number in scientific notation?

- F 0.38×10^{-3}
- G 3.8×10^{-3}
- H 3.8×10^3
- J 38×10^{-4}

9 Rosita wanted to buy an item that costs \$30. Which of the following would offer her the greatest savings?

- A \$8 off
- B 25% off
- C $\frac{1}{3}$ off
- D $\frac{1}{5}$ off, then additional 10% off

10 A teacher set up four work stations in her classroom. She assigned $\frac{1}{4}$ of the students to station A, $\frac{1}{3}$ of the remaining students to station B, $\frac{3}{7}$ of the remaining students to station C, and the rest to station D. If there were 28 students in the class, how many were assigned to station D?

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

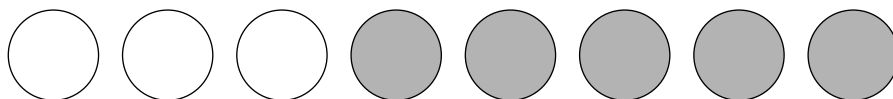
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5	5	5	5		5	5
6	6	6	6		6	6
7	7	7	7		7	7
8	8	8	8		8	8
9	9	9	9		9	9

- 11** A bicycle tire has a diameter of 26 inches. Which is the best approximation for the distance traveled after one complete revolution of the tire?
- A** 530.66 inches
 - B** 40.82 inches
 - C** 81.64 inches
 - D** 163.28 inches
-
- 12** A repairman earned \$340 in 8 hours. What was the unit rate?
- F** \$85 for 2 hours
 - G** \$45 for 1 hour
 - H** \$42.50 for 1 hour
 - J** \$37.50 for 1 hour
-
- 13** Dylan can jog $\frac{3}{4}$ mile in 6 minutes. At this rate, how far can he jog in a half hour?
- A** $\frac{1}{8}$ mile
 - B** $3\frac{3}{4}$ miles
 - C** $4\frac{1}{2}$ miles
 - D** $7\frac{1}{2}$ miles
-
- 14** A basketball court is 94 feet long and 50 feet wide. Kobe wants to make a reduction of the court to draw on a piece of paper. He has room on the page for the court to be 5 inches wide. How long will the court be on the page?
- F** 2.66 inches
 - G** 9 inches
 - H** 9.4 inches
 - J** 940 inches

15 Which ratio is not equivalent to 7:2?

- A $\frac{21}{8}$
 - B $\frac{10.5}{3}$
 - C $\frac{28}{10}$
 - D $\frac{38.5}{11}$
-

16 Look at the following pattern.



If the pattern is extended to 152 circles using the same ratio, how many of the circles will be unshaded?

- F 3
 - G 57
 - H 60
 - J 95
-
- 17 Allison and her sister are standing next to each other. Allison's shadow is 16 feet long and her sister's shadow is 15 feet long. If Allison's sister is 4 feet tall, how many feet tall is Allison?

- A $3\frac{3}{4}$ feet tall
- B $4\frac{1}{6}$ feet tall
- C $4\frac{4}{15}$ feet tall
- D $4\frac{1}{2}$ feet tall

18 A restaurant sells drinks in three sizes: small, medium, and large. The drink cups hold 12 ounces, 16 ounces, and 24 ounces, respectively. Which list of prices was set according to a proportional relationship?

- F** \$0.60, \$0.96, \$1.68
- G** \$0.96, \$1.28, \$1.92
- H** \$1.12, \$1.16, \$1.24
- J** \$1.25, \$1.65, \$2.45

19 What is the 15th term in the sequence 87, 81, 75, 69, . . . ?

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

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0	0	0	0		0	0
1	1	1	1		1	1
2	2	2	2		2	2
3	3	3	3		3	3
4	4	4	4		4	4
5	5	5	5		5	5
6	6	6	6		6	6
7	7	7	7		7	7
8	8	8	8		8	8
9	9	9	9		9	9

20 Which equation best represents the data in the table?

x	2	5	10	14
y	19	10	-5	-17

- F** $y = 3x - 25$
- G** $y = 2x$
- H** $y = -2x + 23$
- J** $y = -3x + 25$

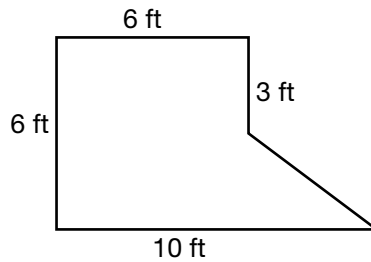
- 21** Justin has a lemonade stand. He charges \$0.60 per cup of lemonade. He estimated his total daily costs to be \$12.50. Justin made a graph to show his daily profit for each number of cups of lemonade sold. Which point would be on his graph?
- A** (40, 11.5)
 - B** (30, 6.5)
 - C** (20, 0.5)
 - D** (10, 18.5)
-
- 22** Billy made a list of the multiples of 8. Then he made a list of the multiples of 12. He noticed that the two numbers had more than one multiple in common. What was the second multiple of 8 and 12 that Billy found?
- F** 24
 - G** 36
 - H** 48
 - J** 96
-
- 23** Apples cost \$0.79 per pound and bananas cost \$0.59 per pound. For a fruit salad, Gabrielle bought 15 pounds of fruit and spent \$10.05. How many pounds of bananas did she buy?
- A** 6 pounds
 - B** 8 pounds
 - C** 9 pounds
 - D** 10 pounds
-
- 24** The sum of three consecutive odd integers is 99. What is the greatest of the three integers?
- F** 31
 - G** 33
 - H** 34
 - J** 35

- 25 The difference of two numbers is 5. Three times the lesser number added to twice the greater number is 40. What is the lesser number?

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

				.		
0	0	0	0		0	0
1	1	1	1		1	1
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5	5	5	5		5	5
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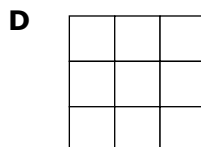
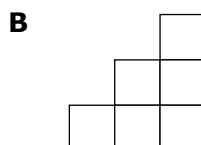
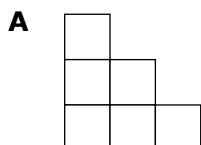
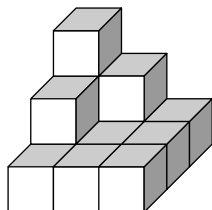
- 26 An artist had to paint the shape shown below.



What is the perimeter of the shape?

- F 25 ft
- G 30 ft
- H 42 ft
- J 66 ft

27 Which is the right side view of the solid figure shown?



28 A 17-foot-long ladder is leaned up against a wall. The bottom of the ladder is 8 feet from the wall. How high on the wall does the ladder reach?

- F** 9 feet
- G** 14 feet
- H** 15 feet
- J** 25 feet

29 Which of the following is true about the point $(-4, 0)$?

- A** It is in Quadrant II.
- B** It is in Quadrant III.
- C** It is on the x -axis.
- D** It is on the y -axis.

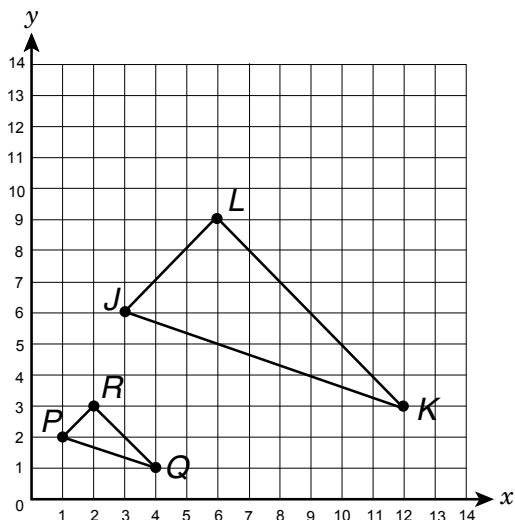
30 Which of the following points is located in Quadrant IV?

- F (3, -5)
- G (3, 0)
- H (3, 5)
- J (-3, 5)

31 A square has its vertices at (0, 0), (4, 0), (4, 4), and (0, 4). The square is dilated by a scale factor of 4.5. What is the area of the dilated square?

- A 4 units²
- B 16 units²
- C 324 units²
- D 400 units²

32 By what scale factor of *PQR* was *JKL* created?



- F $\frac{1}{4}$
- G $\frac{1}{3}$
- H 3
- J 4

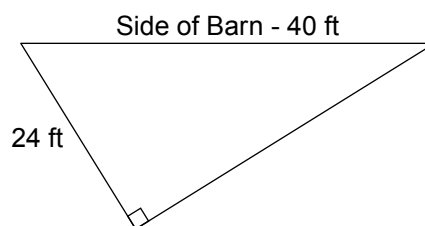
33 A segment has its endpoints at $(-2, 1)$ and $(3, 4)$. The segment is reflected across the y -axis. What are the new coordinates of the endpoints of the segment?

- A** $(-2, -1)$ and $(3, -4)$
- B** $(2, 1)$ and $(-3, 4)$
- C** $(2, -1)$ and $(-3, -4)$
- D** $(1, -2)$ and $(4, 3)$

34 A flagpole stands 24 feet tall. A 25-foot-long rope connects the top of the pole to a ring in the ground. How far from the base of the flagpole is the ring?

- F** 1 foot
- G** 7 feet
- H** 8 feet
- J** 34.6 feet

35 A farmer makes a right-triangular-shaped pen, using 40 feet along the side of the barn as one side of the enclosure, as shown below. How much fencing is needed to enclose the other two sides of the pen?

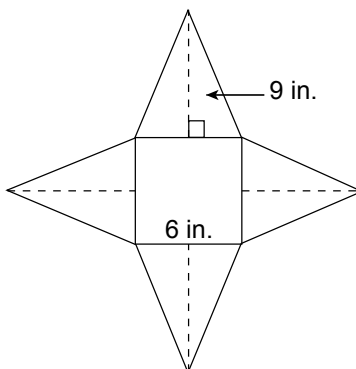


- A** 32 feet
- B** 56 feet
- C** 72 feet
- D** 96 feet

36 The radius of a circle is doubled. By what factor does the circumference of the circle increase?

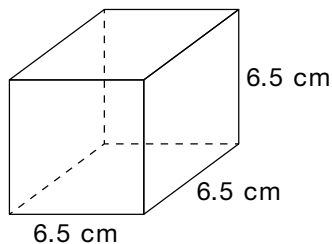
- F 2
- G 4
- H 8
- J 16

37 The net shows a square pyramid. What is the least amount of construction paper needed to cover the entire pyramid?



- A 36 in.^2
- B 108 in.^2
- C 144 in.^2
- D 252 in.^2

38 What is the surface area of the cube?

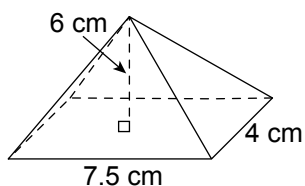


- F 126.75 cm^2
- G 169 cm^2
- H 253.5 cm^2
- J 274.625 cm^2

- 39** A can of diced tomatoes is in the shape of a cylinder. It has a diameter of 8 inches and a height of 5 inches. What is the best approximation of the least amount of metal needed to make the can?
- A** 125.6 in.²
B 175.84 in.²
C 226.08 in.²
D 251.2 in.²
-

- 40** A chest for toys is in the shape of a rectangular prism. The chest is 5 feet wide, 3 feet tall, and 2.5 feet long. The chest will not close when it is more than $\frac{4}{5}$ full. How much space inside the chest can be filled so that the top will still close?
- F** 22.5 ft³
G 30 ft³
H 30 ft²
J 37.5 ft³
-

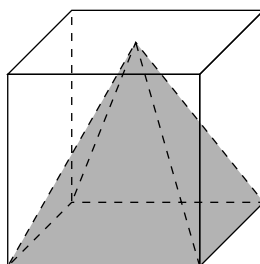
- 41** What is the volume of the rectangular pyramid?



- A** 99 cm³
B 60 cm³
C 90 cm³
D 180 cm³

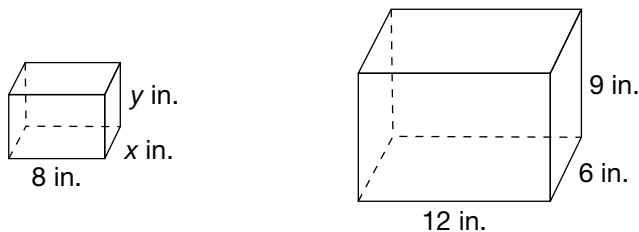
- 42 When inflated properly, a spherical ball has a diameter of 10 inches. About how much air is inside the ball?
- F 314 in.³
 - G 523.33 in.³
 - H 1,570 in.³
 - J 4,186.67 in.³

- 43 How is the volume of the prism related to the volume of the pyramid?



- A The volume of the prism is 2 times the volume of the pyramid.
- B The volume of the prism is 3 times the volume of the pyramid.
- C The volume of the prism is $\frac{1}{3}$ the volume of the pyramid.
- D The volume of the prism is $\frac{1}{2}$ the volume of the pyramid.

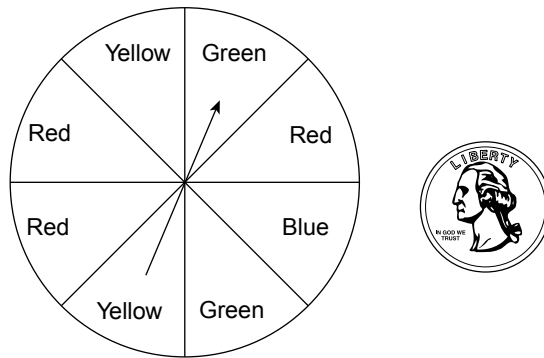
- 44 The two rectangular prisms are similar. What are the missing dimensions in the smaller prism?



- F $x = 2, y = 3$
- G $x = 2, y = 5$
- H $x = 3, y = 4.5$
- J $x = 4, y = 6$

- 45** A square pyramid is 6 inches along each side of the base and 4 inches tall. A second square pyramid is similar to it and is 6 inches tall. What is the area of the base of the second pyramid?
- A** 16 in.²
 - B** 36 in.²
 - C** 64 in.²
 - D** 81 in.²
-
- 46** Two rectangular prisms are similar with a scale factor of 3:2. What is the ratio of their volumes?
- F** 27:8
 - G** 9:4
 - H** 6:4
 - J** 3:2
-
- 47** Mort tossed a number cube, numbered 1 to 6, and a coin 40 times. How many times should he expect to get an even number and tails?
- A** 6 times
 - B** 8 times
 - C** 10 times
 - D** 20 times

48 Deshawn spins the spinner and tosses the coin.



What is $P(\text{green and heads})$?

- F $\frac{1}{8}$
- G $\frac{1}{4}$
- H $\frac{1}{2}$
- J $\frac{3}{4}$

49 A bag contains 10 marbles, 3 red and 7 blue. Michael picks one marble, keeps it, and then picks another marble. What is the probability that both marbles are blue?

- A $\frac{1}{15}$
- B $\frac{7}{30}$
- C $\frac{49}{100}$
- D $\frac{7}{15}$

50 Caroline takes the letters from AUSTIN and places the vowels in one bag and the consonants in another bag. She draws one letter from each bag. What is $P(U \text{ and } N)$?

- F $\frac{1}{9}$
- G $\frac{1}{6}$
- H $\frac{1}{3}$
- J $\frac{2}{3}$

- 51 Curt takes the letters from AUSTIN and places them all in one bag. He draws one letter, keeps it, and then draws a second letter. Expressed as a decimal, what is $P(\text{vowel and consonant})$?

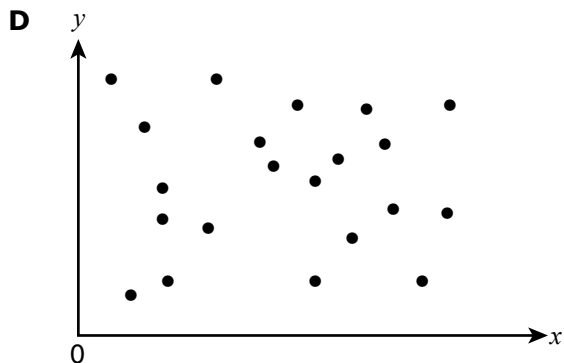
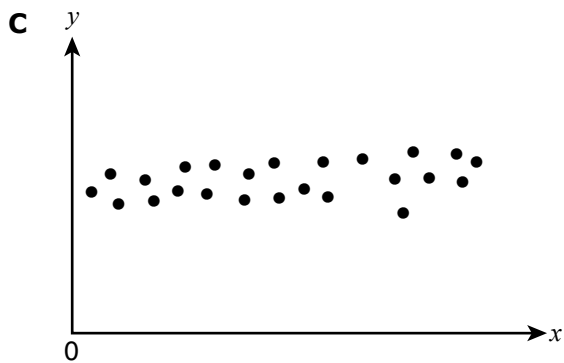
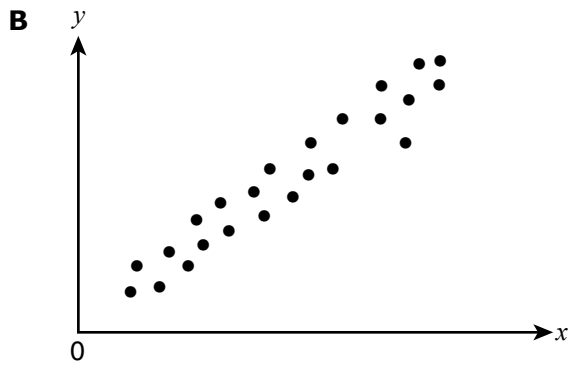
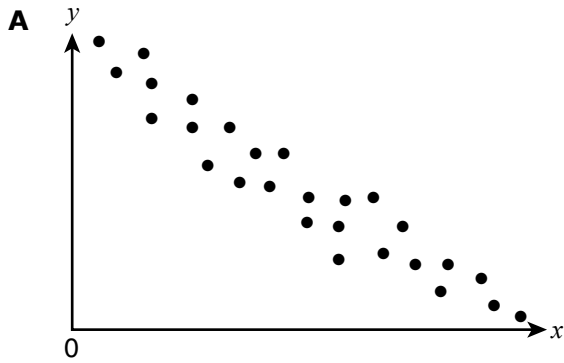
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7	7	7	7		7	7
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- 52 Marty scored 100, 99, 98, 97, 96, and 25 on his tests. If he wants to represent his scores to look as good as possible, which measure should he use?

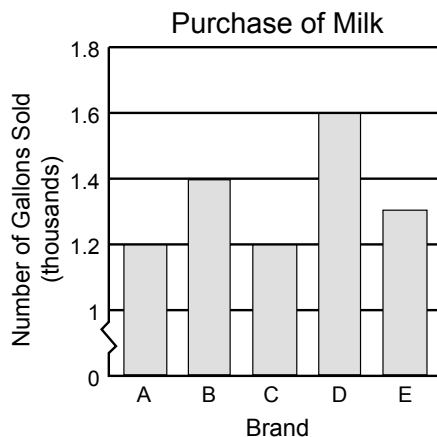
- F Mean
- G Median
- H Mode
- J Range

53 Which scatter plot shows no trend?



- 54** A teacher wanted to make a display that showed all the individual scores on a test. Which would be the best data display for the teacher to use?
- F** Histogram
 - G** Circle graph
 - H** Venn diagram
 - J** Stem-and-leaf plot

- 55** A sales rep showed his manager the graph of one month of milk sales.



The manager made four comments. Which comment is not accurate?

- A** Brand A sold the same number of gallons as Brand C.
 - B** Brand E sold more gallons than Brand C.
 - C** Brand D sold twice as many gallons as Brand A.
 - D** Brand B sold about 100 more gallons than Brand E.
- 56** There are about 400 students in Andrea’s school. Andrea conducted a survey of 20 students to find out whether more students preferred participating in sports, band, or drama. Her results showed that 50% of the students preferred sports, 30% preferred band, and 15% preferred drama. Which thought would most likely occur to Andrea’s teacher?
- F** Andrea’s results are valid, as she likely used a random sample.
 - G** Andrea’s results are valid, as she plays a sport and also an instrument.
 - H** Andrea’s results may not be valid since the results are quite unexpected.
 - J** Andrea’s results may not be valid since she used too small of a sample size.