ACH

TENNESSEE

Tennessee Comprehensive Assessment Program
Achievement Test ~ Grade 6
Practice Test
Version B

Mathematics

1 The graph below shows the number of songs learned by each of four choirs.

Songs Learned by Choirs
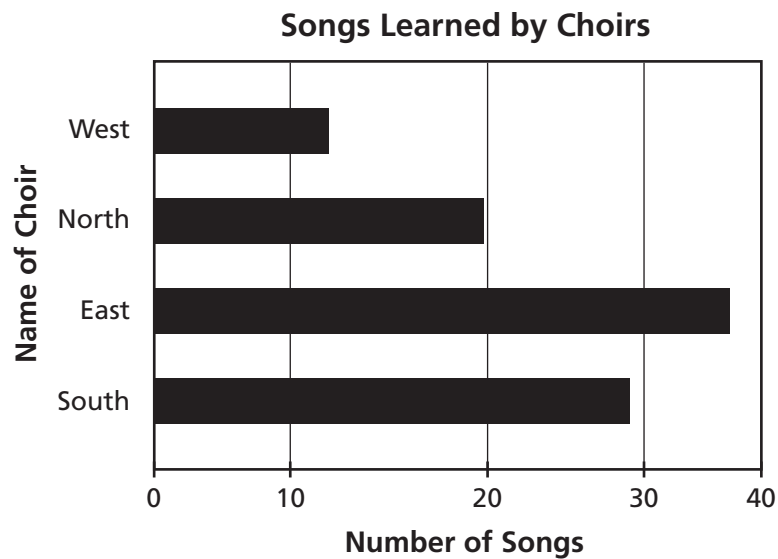
Which feature of the graph could be misleading?

A The names of the choirs should be ordered from the least to the greatest number of songs.

B The spacing of the labels on the horizontal axis is not consistent.

C The scale of the horizontal axis only shows increases of 10.

D The title does not include the type of songs learned.

Go On ▶

2 The graph below shows the number of companies producing solar cells in the United States for each of three years from 2005 to 2009.

Companies Producing Solar Cells
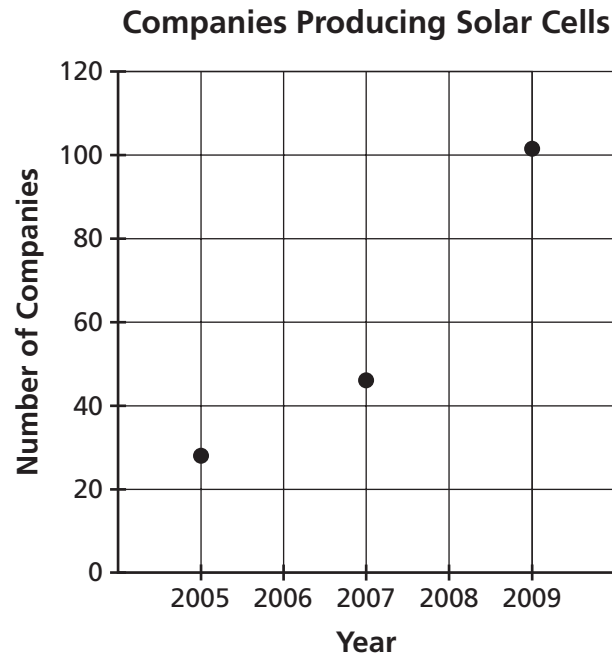
The number of companies increased each year from 2005 to 2009. Which statement can be true?

F The number of companies increased by 20 from 2007 to 2008.

G The number of companies increased by 60 from 2007 to 2008.

H The number of companies in 2008 was the same as the number of companies in 2006.

J The number of companies in 2009 was the same as the number of companies in 2008.

3 Which expression is equivalent to $12(x + 3) + 8x + 12$?

A $20x + 48$

B $20x + 15$

C $44x + 12$

D $48x + 20$

4 Jessica used fence panels that were $3\frac{3}{4}$ inches wide to build a gate. The gate was 5-feet wide

and had no space between the panels. What was the total number of panels Jessica used?

F 20 panels

G $18\frac{3}{4}$ panels

H 16 panels

J $8\frac{3}{4}$ panels

5 A plant grew to $3\frac{2}{5}$ times its original height. What percentage is equivalent to $3\frac{2}{5}$?

A 3.25%

B 34%

C 325%

D 340%

6 The price of a CD player was $45. During a sale, this price was reduced by $15. Which integer best represents this price reduction?
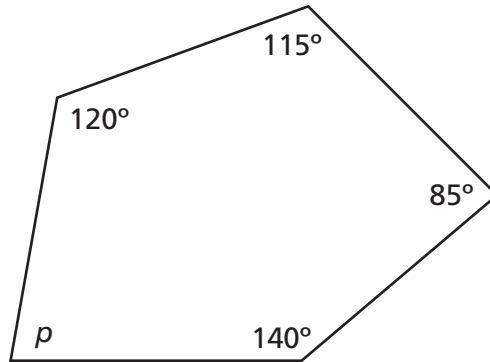
F +30

G +15

H −30

J −15

7 What is the measure of Angle *p* in the figure below?

115°

120°

85°

p   140°

A   80°

B   100°

C   160°

D   260°

8 The list below shows the costs of the school supplies Lea will buy.

- 1 calculator for **$13.95**
- 7 binders for **$1.50** each
- 1 package of markers for **$3.00**

She has already saved **$16.50** to spend on these supplies. How much more money does Lea need to buy all of these supplies?

F $1.95

G $2.55

H $10.95

J $18.45

9 Carl has a total of 172.25 ounces of tea leaves. He filled individual bags each with 5.3 ounces of tea leaves. Which value best represents the total number of bags Carl filled with tea leaves?

A   3.25

B   32.5

C   325

D   3,250

10 A figure is shown on the coordinate grid below.
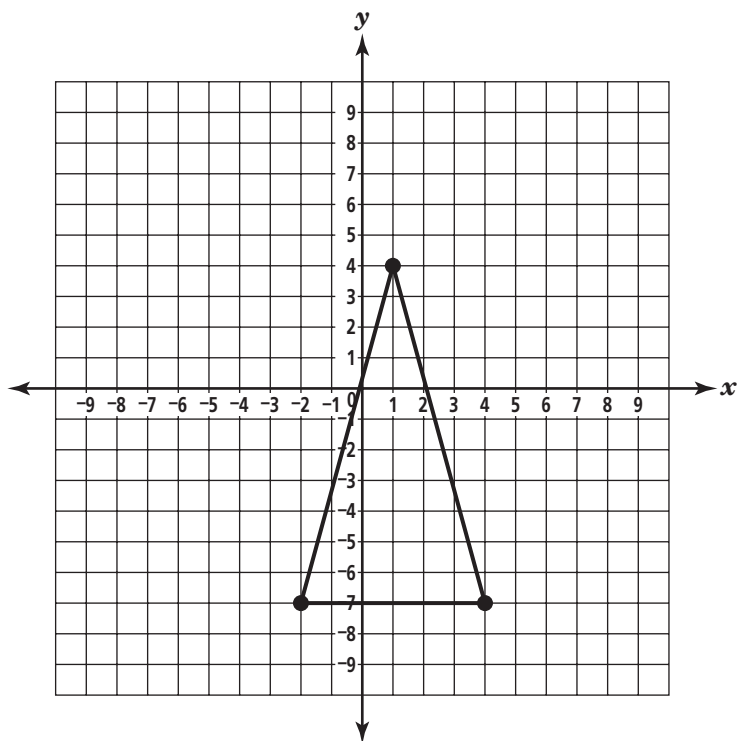
Which ordered pair best represents the location of a vertex of this figure?

F $(4, -7)$

G $(2, -7)$

H $(-7, 4)$

J $(-7, 2)$

11 Mr. Mendoza needs to buy 17 gallons of milk to make ice cream. Each gallon of milk costs $3.21. Which is the <u>best</u> estimate of the total cost of these gallons of milk?

A $80

B $68

C $51

D $20

12 On average, Lance sends 7.85 instant messages per day. At this rate, which is closest to the number of instant messages he sends in a 7-day period?

F 1

G 15

H 49

J 55

13 Amy shared $\frac{3}{4}$ of a pound of grapes with some friends. Each friend received $\frac{1}{6}$ of the grapes.

What was the total amount of grapes each friend received?

A $\frac{1}{8}$ pound

B $\frac{2}{9}$ pound

C $\frac{1}{4}$ pound

D $\frac{7}{12}$ pound

14 What value of t makes this equation <u>true</u>?

$$6t + 12 = 36$$

F   2

G   4

H   8

J   18

15 Milton traced a circle that has a radius of 9 centimeters.

$$\boxed{\text{Area} = \pi r^2}$$

$$\boxed{\pi \approx 3.14}$$

Which measurement is closest to the area of this circle?

A   28.26 square centimeters

B   56.52 square centimeters

C   254.34 square centimeters

D   798.63 square centimeters

16 Raul hikes 11 kilometers during the first 2 hours of his trip. At this rate, what is the total number of kilometers he could hike during a 10-hour period?

F   22 kilometers

G   55 kilometers

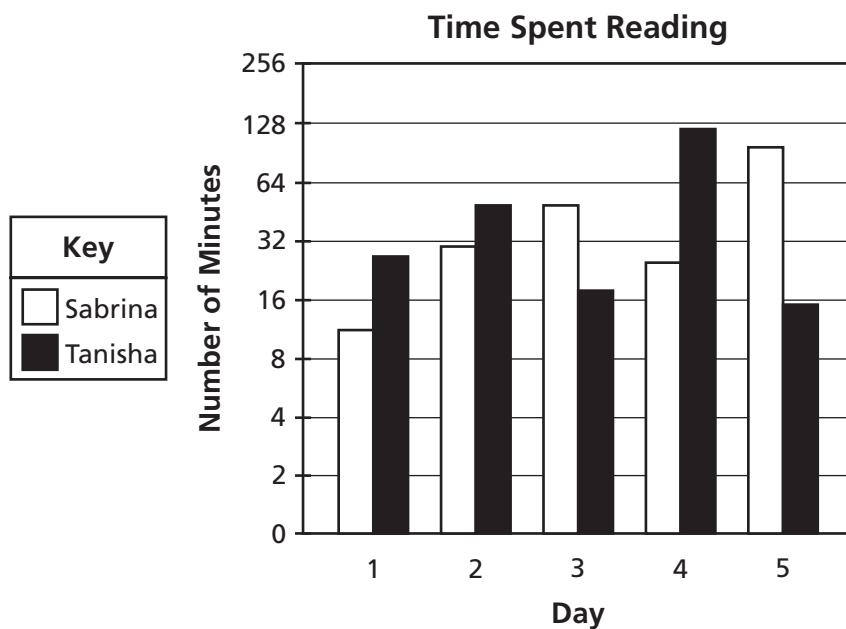**H**   110 kilometers

J   220 kilometers

Go On ▶

17 Which expression has the same value as $8 \cdot 3 + 5$?

A $8 \cdot 3 \cdot 5$

B $8 + 3 + 5$

**C** $8 \cdot 8 \cdot 8 \cdot 5$

D $8 + 8 + 8 + 5$

18 The graph below shows the number of minutes Sabrina and Tanisha spent reading on each of five days.

Time Spent Reading

Which statement describes a feature of the graph that might be misleading?

F   The title of the graph does not use the names of the readers.

G   The number of minutes represented by each interval is inconsistent.

H   The title should specify that only two people are represented in the graph.

J   The bars representing the number of minutes on each day are too close together.

19 Mr. Murphy keeps pencils in a cylindrical container. The diameter of the container is 5 inches, and the height of the container is shown below.
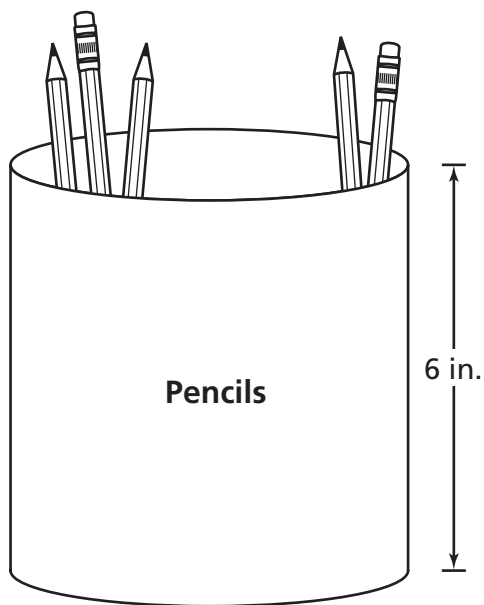
$$\text{Volume} = \pi r^2 h$$

$$\pi \approx 3.14$$

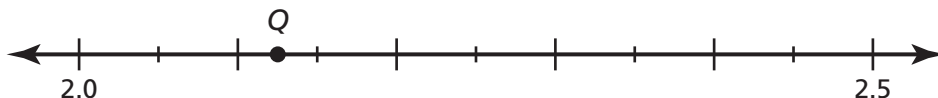Which measurement is closest to the volume of this container?

A 117.75 cubic inches

B 94.2 cubic inches

C 58.875 cubic inches

D 47.1 cubic inches

20 Which equation correctly represents the distributive property?

F $(3 + 6) + 4 = 3 + (6 + 4)$

G $3 \times (6 + 4) = (3 \times 6) + (3 \times 4)$

H $4 \times (3 + 6) = (4 \times 3) + (3 \times 6)$

J $(3 + 4) + 6 = 6 + (3 + 4)$

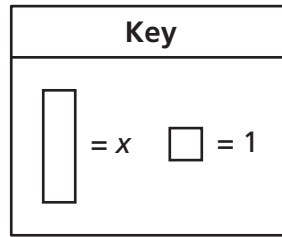**21** Which value is <u>best</u> represented by Point *Q* in the number line below?

A 2.125
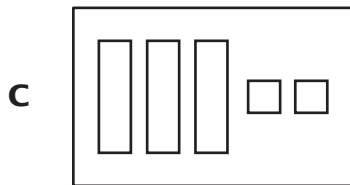
B 2.15

C 2.225

D 2.25

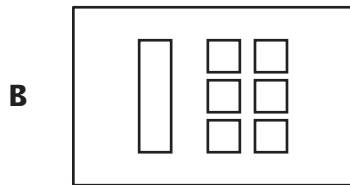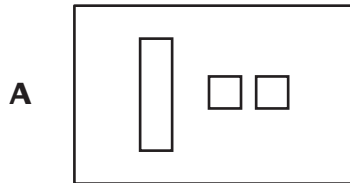**22** Mr. Washington will make 7 batches of fresh pasta. He will use $3\frac{1}{3}$ of flour for each batch. How many cups of flour will Mr. Washington use altogether?

F $4\frac{1}{3}$ cups

G $10\frac{1}{3}$ cups

H $21\frac{1}{3}$ cups

J $23\frac{1}{3}$ cups

23 Look at the key below.

Key
= x   = 1

Which model represents the expression $3(x + 2)$?

A

B

C

D

24 Mr. Orland earns $16 for each wooden sign that he makes and $20 for each vinyl banner that he makes. Yesterday, he made 5 wooden signs and 2 vinyl banners. Which equation can be used to determine m, the total amount of money, in dollars, Mr. Orland earned from the signs and vinyl banners he made yesterday?

F $m = (16 + 20) \times (2 + 5)$

G $m = (16 \times 20) + (2 \times 5)$

H $m = (16 \times 5) + (20 \times 2)$

J $m = (16 + 5) \times (20 + 2)$

25 Mr. Hansen is conducting a survey to determine how well the new mayor of a town is doing her job. Which group can Mr. Hansen use to produce results that are the least biased?

A all the people who work for or who voted for the mayor

B fifty people chosen at random from each section of town

C all the people in the town who volunteer at the high school and middle school

D fifty people who have recently written letters to the newspaper about the mayor

26 Gloria has 6 boxes of wood flooring. Each box contains enough flooring to cover an area of 22.6 square feet. If Gloria does not waste any of the wood flooring, which estimate is closest to the total number of square feet that will be covered when all of this wood flooring is installed?
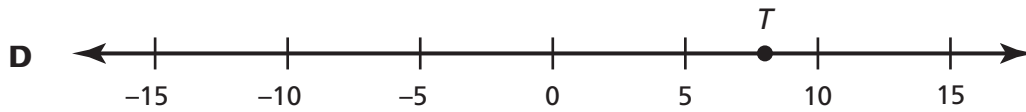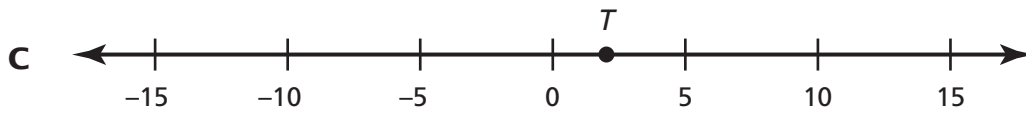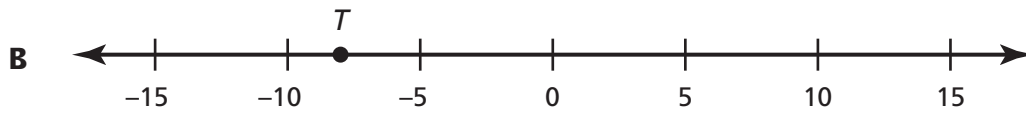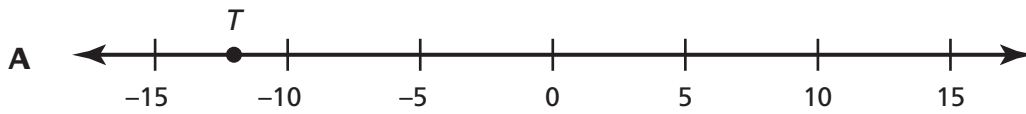
F 120 square feet

G 125 square feet

H 138 square feet

J 150 square feet

27 On Tuesday, the low temperature in a city was $-8°F$. On which number line does Point T best represent -8?

A
```
        T
 ←——+——•——+——————+——————+——————+——————+——————+——→
  −15    −10    −5     0      5      10     15
```

B
```
              T
 ←——+——————+——•——+——————+——————+——————+——————+——→
  −15    −10    −5     0      5      10     15
```

C
```
                            T
 ←——+——————+——————+——————+——•——+——————+——————+——→
  −15    −10    −5     0      5      10     15
```

D
```
                                  T
 ←——+——————+——————+——————+——————+——•——+——————+——→
  −15    −10    −5     0      5      10     15
```
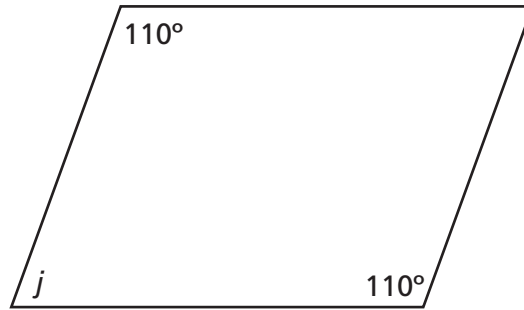
28 Which expression represents "five more than the product of six minus a number n and three"?

F $\quad 5 + 6 - n \cdot 3$

G $\quad 5 + 6 \cdot n - 3$

H $\quad 5 + (6 - n) \cdot 3$

J $\quad 5 + 6 - (n \cdot 3)$

STOP ⬢

Part 2

29   Two of the interior angle measures of a parallelogram are shown below.

What is the measure of Angle *j* ?

A   250°

B   140°

C   110°

D   70°

30   Which equation correctly represents the distributive property?

F $5(2 + 6) = 5 \times 2 + 5 \times 6$

G $5 + (2 + 6) = (5 + 2) + 6$

H $5 \times 2 \times 6 = 5 \times 6 \times 2$

J $5 + (2 + 6) = 5 + (2 + 3 + 3)$

31 Mr. Villarreal wanted to determine if customers would like ice cream to be sold at his convenience store. He went to a nearby ice cream parlor and surveyed 75 people to determine if the customers at the parlor would be in favor of him selling ice cream at the convenience store. Which statement <u>best</u> explains why this sample group may be biased?

A The sample group had members who all came from one ice cream parlor.

B Those in the sample group are more likely to like ice cream.

C Those in the sample group are likely to have no opinion.

D The sample group had only 75 members.

32 Shawna has $\frac{7}{6}$ cups of pretzels to make trail mix. She will put $\frac{1}{3}$ of a cup of pretzels in each bag that she makes. What is the total number of bags of trail mix Shawna can make with this amount of pretzels?

F $\frac{7}{18}$

G $\frac{2}{7}$

H $\frac{7}{6}$

J $\frac{7}{2}$

33 During one year, Mrs. Laymon sent 484 text messages.

- This number was $\frac{1}{3}$ the number of text messages her son sent during the same year.

- Mrs. Laymon sent about the same number of text messages each month, as did her son.

Which is the best estimate of the total number of text messages Mrs. Laymon and her son sent during one month of this year?

A   30

B   50

C   120

D   160

34 Ms. Ling conducted a survey to determine whether the price per gallon of gas influenced the type of transportation used by people in her town. She surveyed the driver of every fifth motorcycle coming into a gas station. Based on this information, which statement is the most reasonable?

F   The sample is not biased because Ms. Ling assumed the driver decided the mode of transportation that was used.

G   The sample is not biased because Ms. Ling may not have surveyed an equal number of men and women.

H   The sample is biased because Ms. Ling's survey of every fifth driver was too random.

J   The sample is biased because Ms. Ling surveyed only people who used motorcycles.
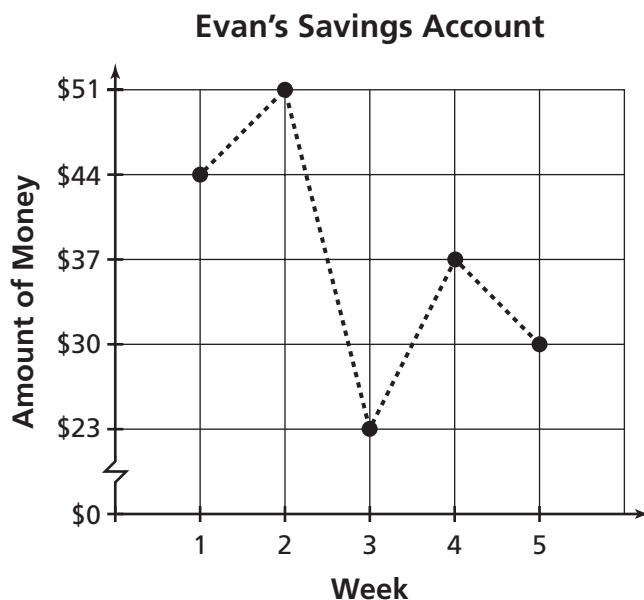
35 Which point on the number line below best represents 0.39?
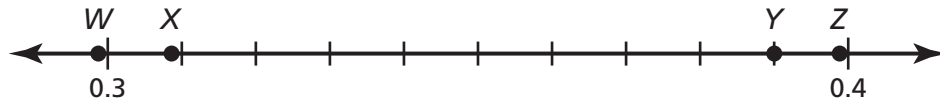
A   Point *W*

B   Point *X*

C   Point *Y*

D   Point *Z*

36 The graph below shows the amount of money in Evan's savings account over a five week period.

Evan's Savings Account

Which integer best describes the change in the amount of money in Evan's account between Week 2 and Week 3?

F   −74

G   −28

H   28

J   74

37 Which expression has the same value as $5.4(3+1)$?

A $5.4 \times 3 + 1$

B $5.4(1+3)$

C $3(5.4+1)$

D $3 \times 5.4 \times 1$

38 Mrs. Gonzales has $15\frac{1}{6}$ yards of material to make costumes for a school play. She will make 3 rabbit costumes that require $2\frac{1}{2}$ yards each and 4 deer costumes that require $2\frac{1}{3}$ yards each.

How many more yards of fabric does Mrs. Gonzales need to make all of the costumes?

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

G $4\frac{5}{6}$ yards

H $10\frac{1}{3}$ yards

J $16\frac{5}{6}$ yards

39 Ms. Hollis spent $10 on food each day for 5 days. During this time period, she also spent a total of $61 on fuel for her car and $85 to pay her electricity bill. Which equation could be used to determine t, the total amount of money, in dollars, Ms. Hollis spent during this time period?
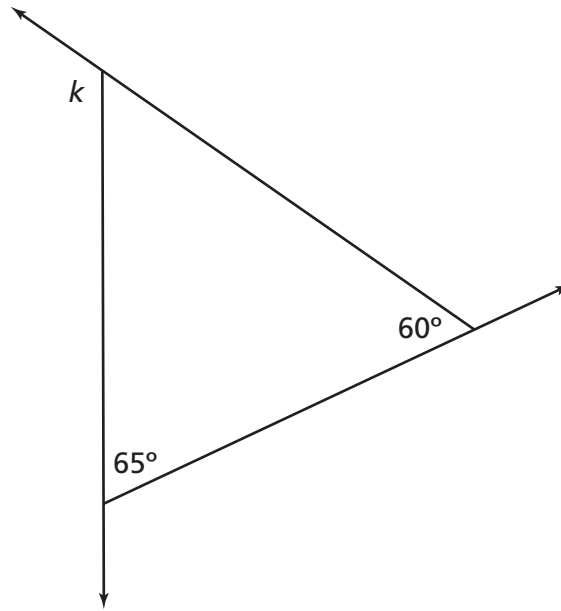
A $t = 5 \times (10 \times 61) + 85$

B $t = 5 \times (10 + 61) + 85$

C $t = 5 \times (10 + 61 + 85)$

D $t = 5 \times 10 + (61 + 85)$

40 What is the measure of Angle *k* in the figure below?

F 55°

G 115°

H 125°

J 235°

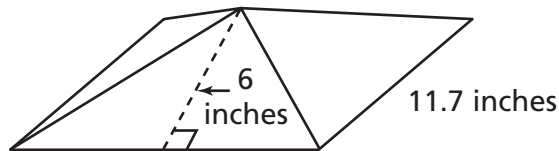**41** Which point best represents the ordered pair $(-2, -6)$ on the coordinate grid below?
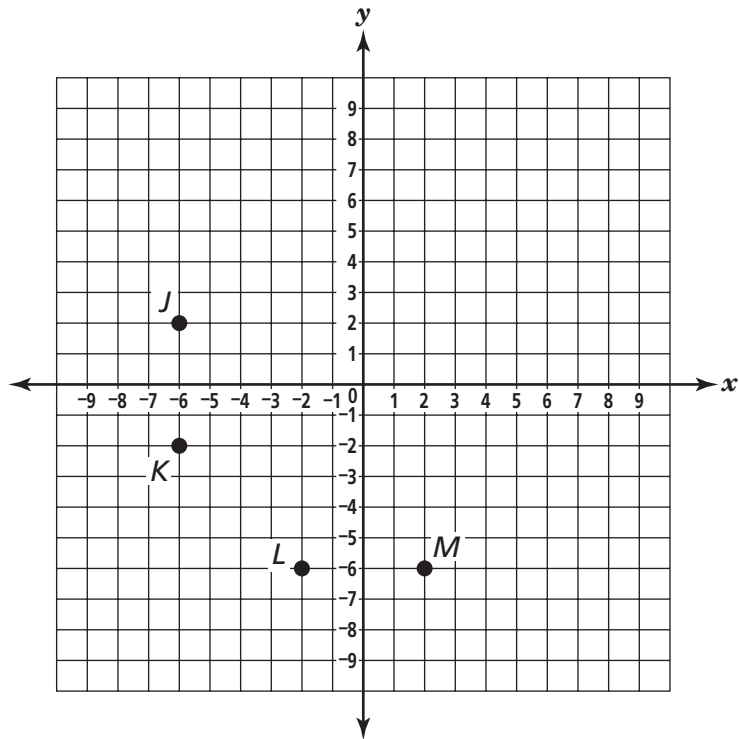
A   Point *J*

B   Point *K*

C   Point *L*

D   Point *M*

42 What percentage is equivalent to $\frac{17}{20}$?

F   90%

G   85%

H   20%

J   17%

43 The slant height and the length of one edge of a square pyramid are shown below.

$$\text{Surface Area} = B + \frac{1}{2}\,lp$$

$B =$ area of the base of the figure
$l =$ slant height
$p =$ perimeter of the base of the figure

What is the surface area of this square pyramid?

A 277.29 square inches

B 207.09 square inches

C 171.99 square inches

D 152.10 square inches

44 Mr. Lewis' oil-change shop can service 7 cars in 2 hours. At this rate, how many cars can his shop service in 50 hours?

F 100

G 175

H 350

J 700

45 The graph below shows the number of roses used for different types of flower arrangements.

Flower Arrangements
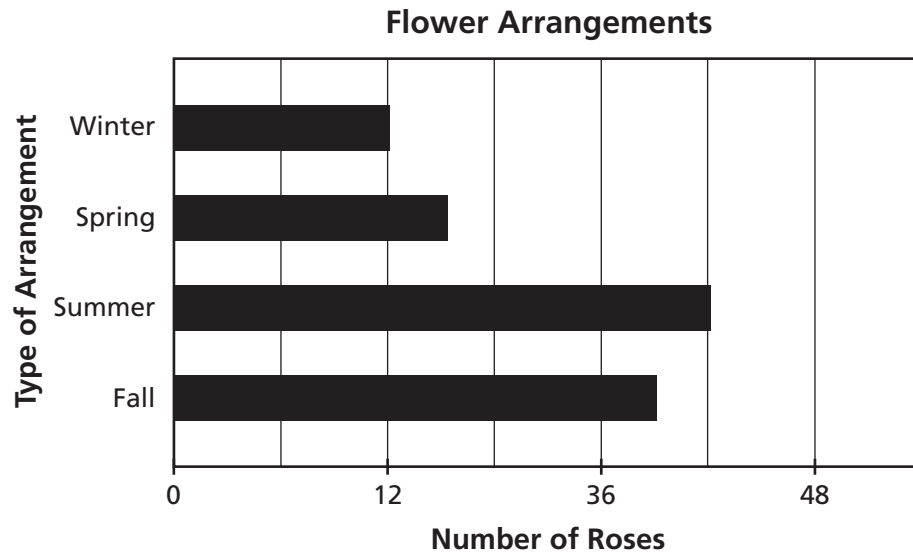
Shania looked at this graph and incorrectly concluded that half as many roses were used in the Spring arrangement as were used in the Summer arrangement. Which feature of this graph most likely led Shania to this conclusion?

A The horizontal scale is inconsistent.

B The vertical labels should begin with Spring.

C The vertical label is inappropriate for the data.

D The horizontal label is missing a unit of measure.

46 A model is shown below.

Key		
☐ = 1	■ = −1	
▯ = x	█ = −x	
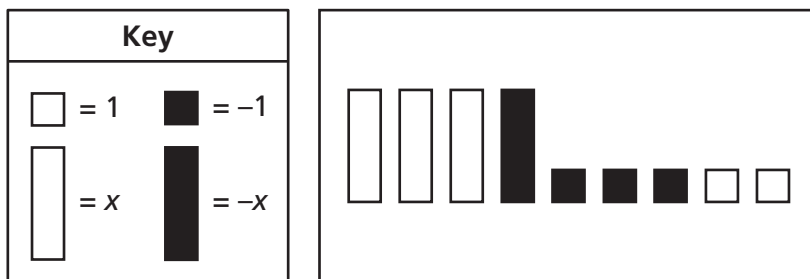
Which expression is represented by this model?

F   −2x + 5

G   −2x − 1

H   2x − 1

J   2x + 1

47 Look at the equation below.

$$2b + 1{,}000 = 1{,}300$$

What value of b makes this equation <u>true</u>?

A   150

B   600

C   650

D   1,150

48 Which description represents $10x + 4$?

F the product of x, ten, and four

G ten times the sum of x and four

H the sum of ten and four, x times

J four more than the product of ten and x

49 The circular face of a clock has a diameter of 30 centimeters (cm).

$$\text{Circumference} = \pi d$$

$$\pi \approx 3.14$$

Which measurement is closest to the circumference of the face of the clock?

A 47.1 cm

B 94.2 cm

C 188.4 cm

D 295.8 cm

50 The wingspan of the first butterfly Wally measured was 0.08 meter. The wingspan of the second butterfly he measured was 0.101 meter. What is the difference between the wingspans of the butterflies Wally measured?

F 0.021 meter

G 0.093 meter

H 0.103 meter

J 0.109 meter

Go On ▶

51 The table below shows lengths of time for each of the first 5 songs on Garrard's music player. The longest and shortest songs on his music player are listed in the table.

Songs on Music Player

Song	Amount of Time
1	3 minutes 35 seconds
2	1 minute 18 seconds
3	3 minutes 17 seconds
4	4 minutes 7 seconds
5	3 minutes 27 seconds

Based on this information, which is the best prediction of the total amount of time Garrard will take to listen to the next 3 songs?

A 3 minutes 17 seconds

B 9 minutes 44 seconds

C 12 minutes 22 seconds

D 15 minutes 45 seconds

52 Which point best represents the integer −190 on the number line below?
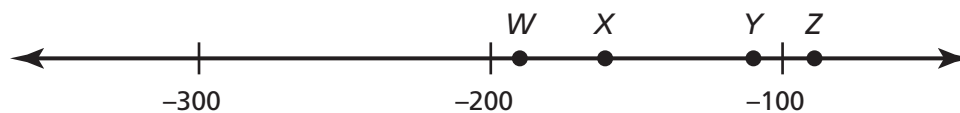
F Point *W*

G Point *X*

H Point *Y*

J Point *Z*

53 Mrs. Kendal planned to spend $40 to take her children to the movies.

- She spent $28.00 on movie tickets.
- She spent $2.50 for each of 3 bags of popcorn.
- She spent $1.75 for each of 4 drinks.
- She spent $1.00 for a pickle.

Exactly how much more did Mrs. Kendal spend at the movies than she had planned?

A $7.75

B $6.75

C $3.50

D $2.50

54 A farmer sold cotton to two companies for $1.87 per pound. The farmer sold 500 pounds to Company A and 750 pounds to Company B. Which equation can be used to determine d, the total amount, in dollars, of the cotton sold to these two companies?

F $d = (500 \times 750) + 1.87$

G $d = (500 + 750) \times 1.87$

H $d = (500 + 1.87) \times (750 \times 1.87)$

J $d = (500 + 750) + (500 \times 1.87)$

55 Charlene used all $16\frac{7}{8}$ inches of a silver chain to make 3 bracelets. Each bracelet was the same

length. What was the length of each bracelet?

A $1\frac{7}{24}$ inches

B $5\frac{1}{3}$ inches

C $5\frac{5}{8}$ inches

D $7\frac{7}{8}$ inches

STOP

Mathematics
Answer Key

1	B		15	C		29	D		43	A
2	F		16	G		30	F		44	G
3	A		17	D		31	B		45	A
4	H		18	G		32	J		46	H
5	D		19	A		33	D		47	A
6	J		20	G		34	J		48	J
7	A		21	A		35	C		49	B
8	H		22	J		36	G		50	F
9	B		23	D		37	B		51	B
10	F		24	H		38	F		52	F
11	C		25	B		39	D		53	C
12	J		26	H		40	H		54	G
13	A		27	B		41	C		55	C
14	G		28	H		42	G			