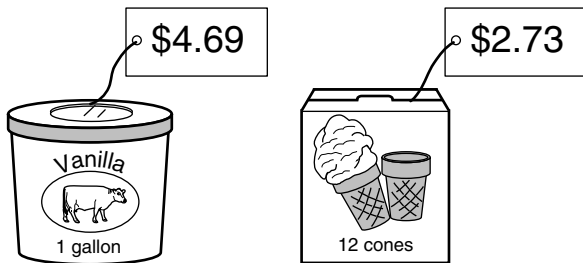## Mathematics

Read and solve each question. Then mark the space in the answer booklet for the best answer.

SAMPLE

Jenny found 17 seashells at the beach. What is 17 rounded to the nearest ten?

A 10

B 15

C 20

D 25

1 What would be the cost of 2 gallons of ice cream and 2 boxes of ice cream cones?

$4.69 $2.73

Vanilla
1 gallon   12 cones

A $12.64

B $12.84

C $14.64

D $14.84

2 Which is the best estimate for 8,032 − 2,936 ?

F About 4,000

G About 5,000

H About 6,000

J About 7,000

3 This is 1.

What is

+   ?
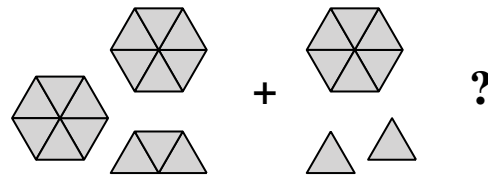
A $3\dfrac{2}{6}$

B $3\dfrac{5}{6}$

C $4\dfrac{2}{6}$

D $4\dfrac{5}{6}$
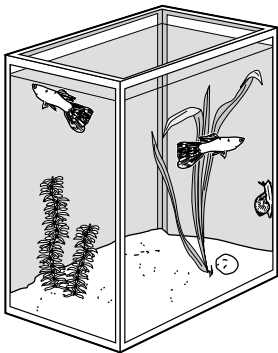
4 **3,612 ÷ 86 =**
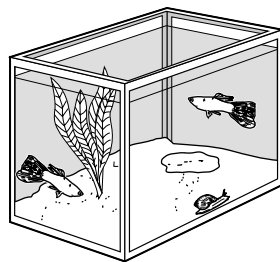
F   41 R86

G   42

H   42 R10

J   420

5 **Hannibal is comparing two kinds of aquariums. The first aquarium can hold a maximum of 12.875 gallons of water. The second aquarium can hold a maximum of 10.65 gallons of water. How many more gallons of water can the first aquarium hold than the second?**

12.875
gallons

10.65
gallons

A   1.225

B   1.181

C   2.010

D   2.225

6
$$+\ \begin{array}{r} \frac{1}{2} \\ \frac{3}{4} \end{array}$$

F $\frac{2}{3}$

G   1

H $1\frac{1}{8}$

J $1\frac{1}{4}$

7 **0.7251 ÷ 3 =**

A   0.2417

B   2.417

C   24.17

D   241.7

8

$$7\frac{8}{9}$$
$$-\ 2\frac{6}{7}$$

F   5

G $5\frac{1}{8}$

H $5\frac{2}{63}$

J $5\frac{1}{3}$

9   **Which product would be in the 200 to 300 range?**

A 9×16
B 15×12
C 17×11
D 19×13

10   **75,243 + 3,089 = ?**

F   75,632
G   78,322
H   78,332
J   106,133

11   **4.8 × 5.1 =**

A   2.448
B   2.88
C   24.41
D   24.48

12   **709**
         ×   8

F   6,302
G   6,262
H   5,672
J   5,602

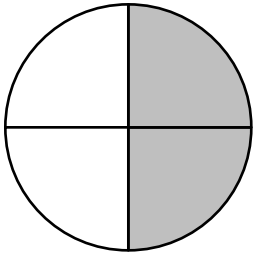**13**   **A piece of wood is 2.27 centimeters thick. What is that measurement rounded to the nearest tenth of a centimeter?**
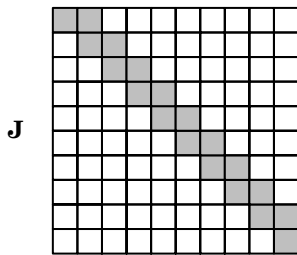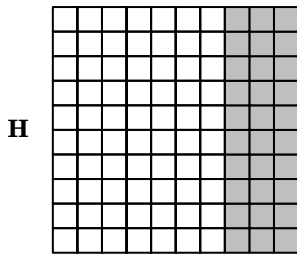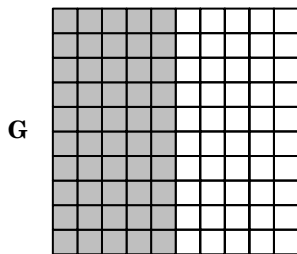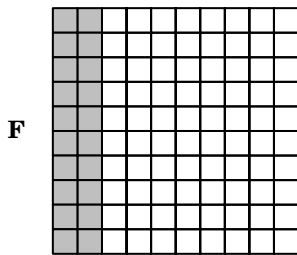
A   2.1
B   2.2
C   2.3
D   2.5

14 A fraction of this circle is shaded.

Which is shaded to represent a decimal with the same value as the fraction?

F

G

H

J

15 One year there were 1,546,257 people enrolled in Virginia schools. What is the value of the 4 in that number?

A 4

B 400

C 4,000

D 40,000

16 The table shows the number of visitors recorded one year to some national parks.

Name of Park	Number of Visitors
Assateague Island National Seashore	1,836,784
Cumberland Gap National Historical Park	1,317,835
Shenandoah National Park	1,473,100
Valley Forge National Historical Park	1,784,520

Which of the following is a true statement about the number of visitors to these parks?

F 1,836,784 < 1,784,520

G 1,473,100 < 1,317,835

H 1,317,835 < 1,784,520

J 1,836,784 < 1,473,100

17 Which has a value greater than $\frac{1}{5}$?

A $\frac{1}{3}$

B $\frac{1}{6}$

C $\frac{1}{8}$

D $\frac{1}{10}$

18 Which means "six and seventy-four thousandths"?

F 674,000

G 6.74

H 6.074

J 0.6074

19 Which is true?

A $1.3749 < 1.0399$

B $1.526 < 1.2605$

C $1.7908 < 1.879$

D $1.463 < 1.3902$

20 A fraction of these caps is dark.

Which of the following groups has an equivalent fraction of dark caps?

F

G

H

J

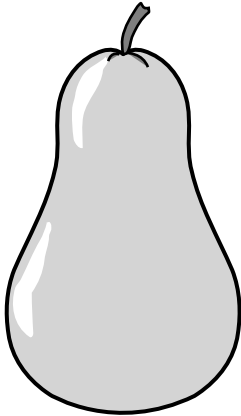**21** What is the area of a rectangle that measures 4 meters wide and 6 meters long?

A 10 m^2

B 20 m^2

C 24 m^2
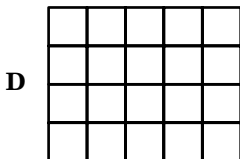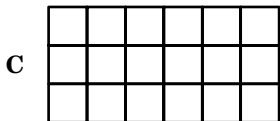
D 100 m^2

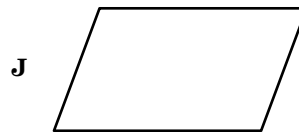**22** Which is closest to the weight of a pear?

   F 4 ounces

   G 4 pounds

   H 40 pounds

   J 40 tons

23 Which figure has an area of 20 square units and a perimeter of 18 units?

   A

   B

   C

   D
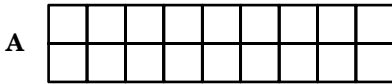
24 Which has exactly two right angles?

   F

   G

   H

   J
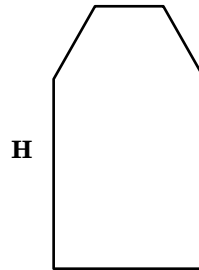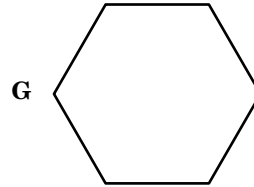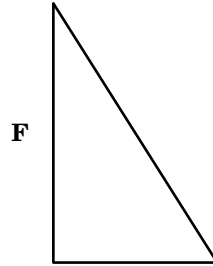
25 Which is a picture of only line segment *AB*?

A   *A*   *B*

B   *A*   *B*

C   *A*   *B*

D   *A*   *B*
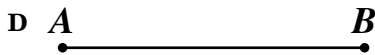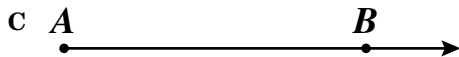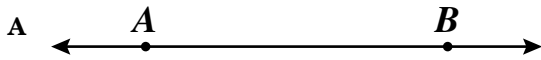
26 On Monday, a train left Brockton at 8:16 A.M. and arrived in Deming at 3:45 P.M. If there were no stops, how long did the trip take?

F   19 hours, 29 minutes

G   7 hours, 31 minutes

H   7 hours, 29 minutes

J   5 hours, 31 minutes

27 In the figure below, which best describes the location of the eye of the fish?

A   (4, 1)

B   (3, 1)

C   (2, 4)

D   (1, 3)

— **9** —

GO ON
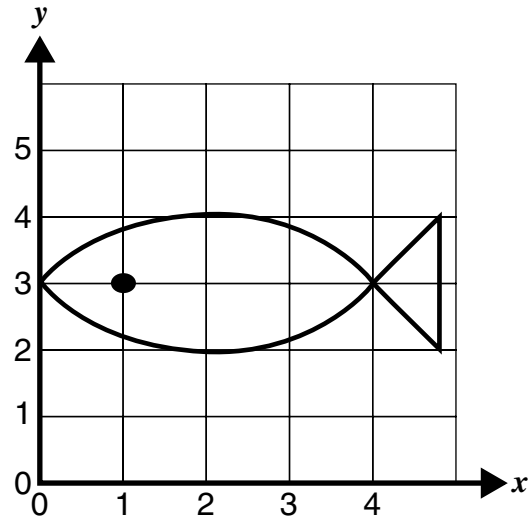
28 Use your protractor to help you answer this question. Which is closest to the measure of the angle the board makes with the level ground as it rests against the side of the building?
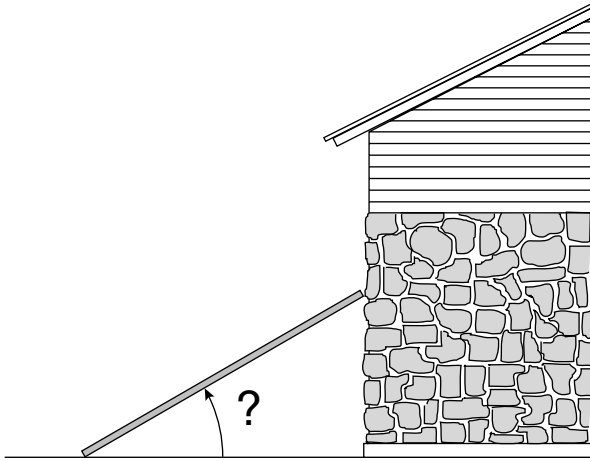
F 30°

G 45°

H 90°

J 150°

29 Use your inch ruler to help you answer this question. Which is *closest* to the length of this mailing label?

AB&C Company
322 Elm Street
Anycity, USA 00012

A 2 in.

B $2\frac{1}{2}$ in.

C 3 in.

D $3\frac{1}{2}$ in.

30 Elsa wants to start a garden in her backyard. For which of the following would she need to know the perimeter of the garden?

F Determining how much fertilizer is needed to cover the garden

G Determining how much water is needed for the garden

H Determining how many seeds are needed to fill the garden with plants

J Determining how many feet of fencing are needed to go around the garden

31 Which statement *must* be true about a diameter of a circle?

- **A** Divides a circle into fourths
- **B** Intersects at only one point on the circle
- **C** Shortest distance across a circle
- **D** Intersects the center of a circle

32 Keith used 1 quart of milk to make pudding. Which is closest to this amount?

- **F** 1 milliliter
- **G** 1 liter
- **H** 1 gallon
- **J** 1 cup

33 The table shows the height of a bean plant over a 5-day period.

Day	Height
Monday	16 cm
Tuesday	19 cm
Wednesday	28 cm
Thursday	30 cm
Friday	34 cm

Which of the following shows this data correctly graphed?

A

Plant Height

B

Plant Height

C

Plant Height

D

Plant Height
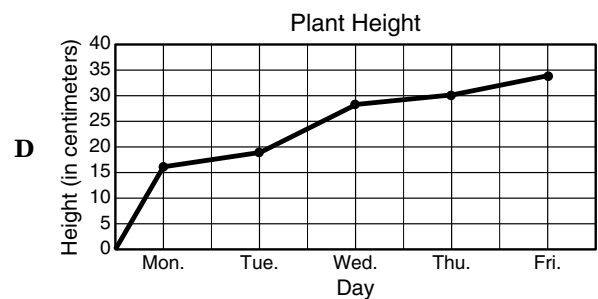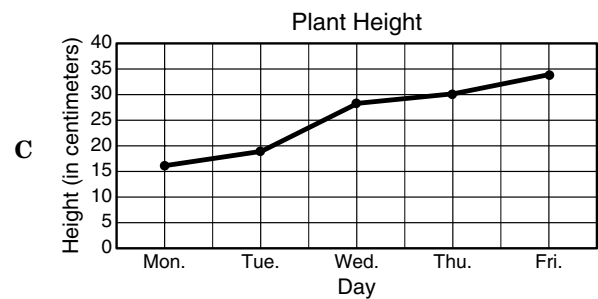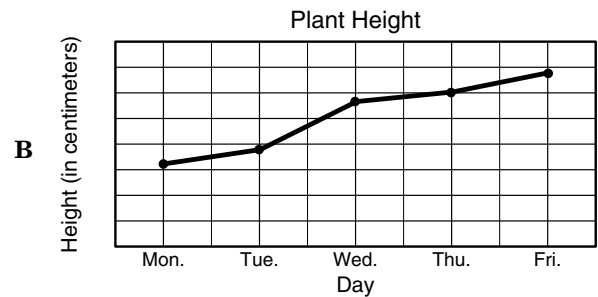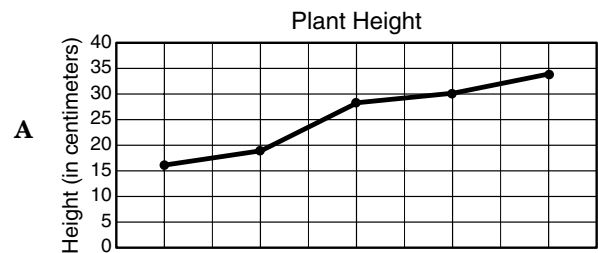
34 The graph shows the number of students in each grade at Powell Elementary School.

Students at Powell Elementary
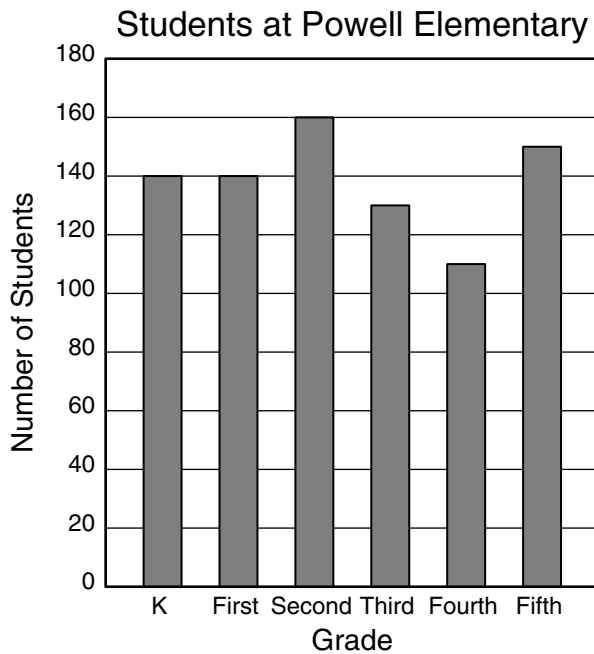
About how many more students are in Fifth grade than Fourth grade?

F 12

G 20

H 31

J 40

35 The table below shows the number of each kind of candle a shop sold.

Candle Sales	
Kind of Candle	**Number Sold**
Floral	35
Vanilla	48
Berry	39
Cinnamon	46

The shop manager made this bar graph to display the information in the table.
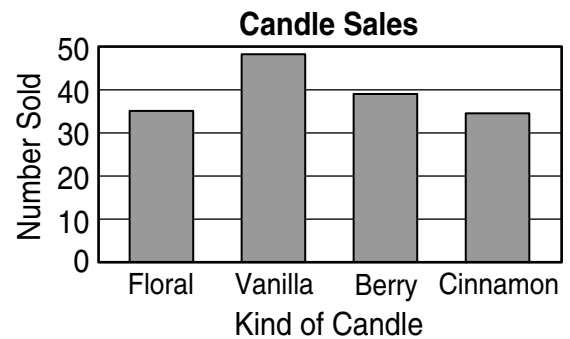
Which of the amounts from the table is not graphed correctly?

A Floral

B Vanilla

C Berry

D Cinnamon

36 This list shows the number of cans each student in Angelo's class collected for recycling.

30	21	12	17	25	18
35	30	26	31	14	29
27	42	35	20	17	34
20	31	21	35	44	17

Which of the following stem-and-leaf plots shows this same information?

F

Stem	Leaf
1	2, 4, 7, 8
2	0, 1, 5, 6, 7, 9
3	0, 1, 4, 5
4	2, 4

G

Stem	Leaf
1	2, 4, 7, 8
2	1, 5, 6, 7, 9
3	1, 4, 5
4	2, 4

H

Stem	Leaf
1	2, 4, 7, 7, 7, 8
2	1, 1, 5, 6, 7, 9
3	1, 1, 4, 5, 5, 5
4	2, 4

J

Stem	Leaf
1	2, 4, 7, 7, 7, 8
2	0, 0, 1, 1, 5, 6, 7, 9
3	0, 0, 1, 1, 4, 5, 5, 5
4	2, 4

37 The spinner shown below is used to play a game.
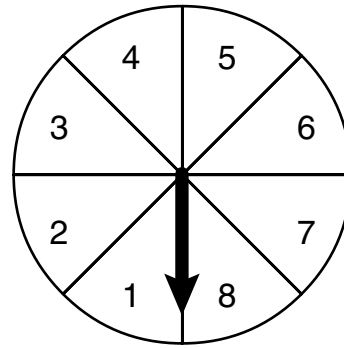
What is the probability that the arrow will land on a number greater than 5?

A $\dfrac{3}{5}$

B $\dfrac{3}{8}$

C $\dfrac{5}{8}$

D $\dfrac{1}{3}$

38 The table below shows the number of babysitting jobs Millie and her friends had last month.

Babysitting Jobs	
Name	**Number of Jobs**
Millie	13
Jean	7
Susan	8
Andrea	8

What was the mean (average) number of babysitting jobs Millie and her friends had last month?

F 7

G 8

H 9

J 13

39 The table below shows the number of basketball tickets Mr. Graham's students sold last week.

Ticket Sales	
Day	**Number Sold**
Monday	20
Tuesday	23
Wednesday	15
Thursday	31
Friday	28

Which of the following shows this information correctly graphed?

A

B

C

D

GO ON

40
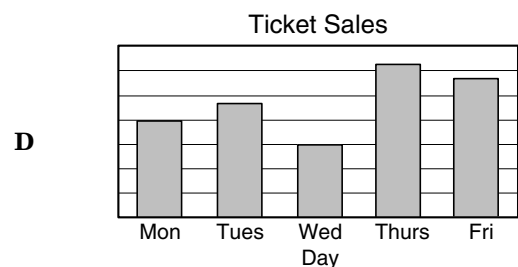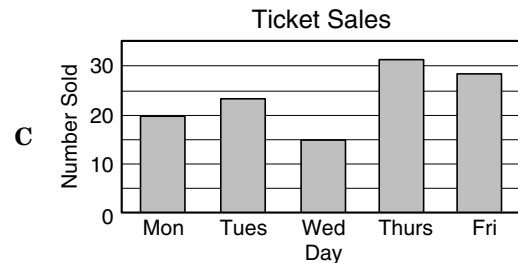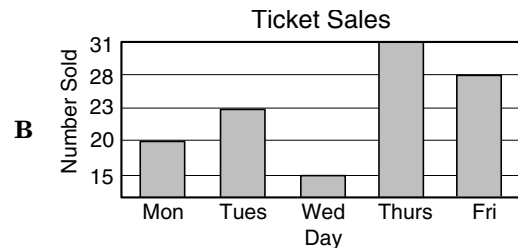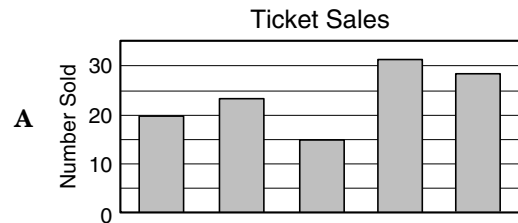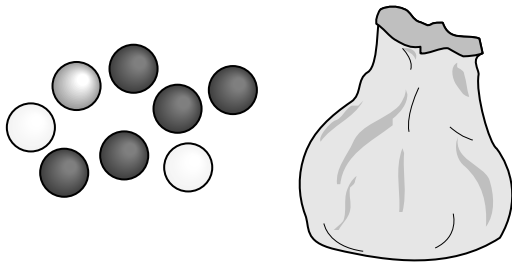
Jill put the marbles shown above into a bag and shook the bag. Which of the following questions about the marbles could you use probability to solve?

F How many marbles did Jill put in the bag all together?

G If Bob picks 1 marble from the bag without looking, what color will it most likely be?

H How many more black marbles than white marbles did Jill put in the bag?

J If Andy takes 1 marble from the bag, how many marbles will be left in the bag?

41 **If the pattern shown below continues, what will be the next number?**

25, 50, 100, 200, 400, ___

A 425

B 450

C 800

D 1,000

42
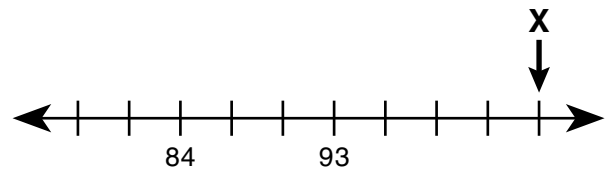
What number belongs at the position indicated by arrow X?

F 97

G 101

H 102

J 105

43 **If the pattern shown below continues, what will be the next number?**

8, 13, 11, 16, 14, ...

A 19

B 18

C 12

D 9

44 **If *B* represents a number, which means "a number divided by 9?"**

F $B + 9$

G $B - 9$

H $9 \div B$

J $B \div 9$

45 The table shows the cost of hamburgers.

Number of Hamburgers	Total Cost
1	$2.25
2	$4.50
3	$6.75
4	$9.00
5	$11.25

If the pattern continues, what will be the cost for 6 hamburgers?

A $12.50
B $13.50
C $13.75
D $14.25

46
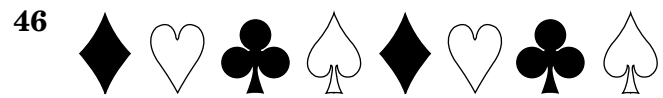
If this pattern continues, what will the *eleventh* shape look like?

F

G

H

J
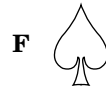
47 The picture below shows what happened when the numbers 2, 9, and 16 were put into the same number machine.

In
2

9
Out

In
9

16
Out

In
16

23
Out

If the number 20 is put into the same number machine, what number should come out?

A 24
B 26
C 27
D 29

48 Which of these could be solved by using the open sentence $A - 5 = ?$

F Janis is 5 years older than Seth. If A is Seth's age in years, how old is Janis?

G Todd is 5 years younger than Amelia. If A is Amelia's age in years, how old is Todd?

H Isaac is 5 times as old as Bert. If A is Bert's age in years, how old is Isaac?

J Nathan is one-fifth as old as Leslie. If A is Nathan's age, how old is Leslie?

49 These figures form a pattern.
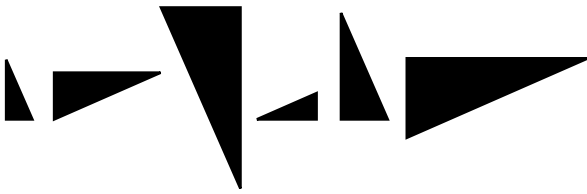
If the pattern continues, what will the next shape look like?
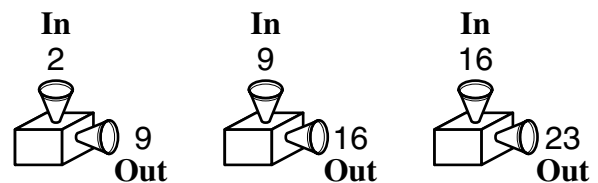
A

B

C

D

50 Elizabeth made 3 times as many home runs during baseball season as her friend Tanya. If R represents the number of home runs Tanya made, which expression can be used to find the number of home runs Elizabeth made this season?

F $R \div 3$

G $R + 3$

H $R - 3$

J $R \times 3$

STOP

Answer Key

Test Sequence	Correct Answer	Reporting Category	Reporting Category Description
1	D	007	Computation and Estimation
2	G	007	Computation and Estimation
3	B	007	Computation and Estimation
4	G	007	Computation and Estimation
5	D	007	Computation and Estimation
6	J	007	Computation and Estimation
7	A	007	Computation and Estimation
8	H	007	Computation and Estimation
9	D	007	Computation and Estimation
10	H	007	Computation and Estimation
11	D	007	Computation and Estimation
12	H	007	Computation and Estimation
13	C	006	Number and Number Sense
14	G	006	Number and Number Sense
15	D	006	Number and Number Sense
16	H	006	Number and Number Sense
17	A	006	Number and Number Sense
18	H	006	Number and Number Sense
19	C	006	Number and Number Sense
20	G	006	Number and Number Sense
21	C	008	Measurement and Geometry
22	F	008	Measurement and Geometry
23	D	008	Measurement and Geometry
24	H	008	Measurement and Geometry
25	D	008	Measurement and Geometry
26	H	008	Measurement and Geometry
27	D	008	Measurement and Geometry
28	F	008	Measurement and Geometry
29	B	008	Measurement and Geometry
30	J	008	Measurement and Geometry
31	D	008	Measurement and Geometry
32	G	008	Measurement and Geometry
33	C	009	Probability and Statistics
34	J	009	Probability and Statistics
35	D	009	Probability and Statistics
36	J	009	Probability and Statistics
37	B	009	Probability and Statistics
38	H	009	Probability and Statistics
39	C	009	Probability and Statistics
40	G	009	Probability and Statistics
41	C	010	Patterns, Functions, and Algebra
42	J	010	Patterns, Functions, and Algebra
43	A	010	Patterns, Functions, and Algebra
44	J	010	Patterns, Functions, and Algebra
45	B	010	Patterns, Functions, and Algebra
46	G	010	Patterns, Functions, and Algebra
47	C	010	Patterns, Functions, and Algebra
48	G	010	Patterns, Functions, and Algebra
49	C	010	Patterns, Functions, and Algebra
50	J	010	Patterns, Functions, and Algebra