VIRGINIA STANDARDS OF LEARNING

Spring 2005 Released Test

GRADE 5 MATHEMATICS

CORE 1

Property of the Virginia Department of Education

DIRECTIONS

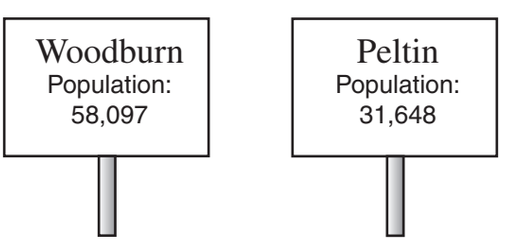
Read and solve each question. Then mark the space in the answer booklet for the best answer.

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 These signs show the population of two different towns.



How much *greater* is the population of Woodburn than Peltin?

A 26,449
B 27,651
C 89,745
D 90,645

2 The solution to 49,364 − 15,869 is *closest* to —

F 300
G 3,000
H 30,000
J 300,000

3 520 ÷ 5 =

A 140
B 124
C 120
D 104

4 The solution to 421 × 32 is *closest to* —

F 120
G 1,200
H 12,000
J 120,000

GO ON

5 $3\overline{)1.725} =$

A 0.0512
B 0.0575
C 0.512
D 0.575

6 $347 + 602 + 1{,}985 =$

F 1,934
G 2,824
H 2,934
J 11,475

7 $9.62 - 7.154 =$

A 2.534
B 2.466
C 2.474
D 0.6192

8 **A bag of chocolate candy holds exactly 408 pieces. Eight friends plan to share the chocolate pieces equally. How many chocolate pieces should each friend receive?**

F 3,264
G 416
H 400
J 51

9 **Suni needs $\frac{2}{3}$ cup white sugar and $\frac{1}{4}$ cup brown sugar to make cookies.**

How much sugar is that all together?

A $\frac{11}{12}$ cup

B $\frac{2}{12}$ cup

C $\frac{3}{7}$ cup

D $\frac{2}{7}$ cup

10 **$0.05 \times 6 =$**

F 30

G 0.30

H 0.03

J 0.003

11 **$9\overline{)8{,}245} =$**

A 916 R1

B 916

C 915 R1

D 905

12

$$\begin{array}{r} 7\frac{1}{5} \\ +\ 6\frac{2}{5} \\ \hline \end{array}$$

F $1\frac{1}{5}$

G $13\frac{3}{5}$

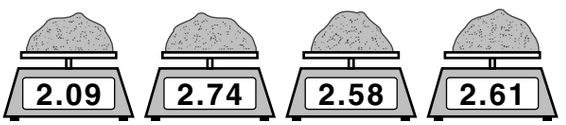
H $13\frac{3}{10}$

J $14\frac{2}{3}$

Do not turn the page until your teacher tells you to do so.

STOP

13 The scales below show the weights, in grams, of four soil samples.



Which of the following is true about the weights of the soil samples?

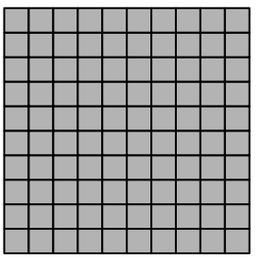
A $2.61 < 2.09$

B $2.74 < 2.58$

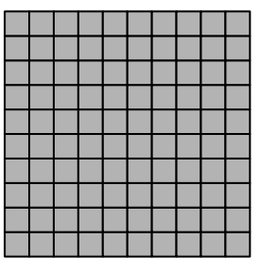
C $2.09 < 2.61$

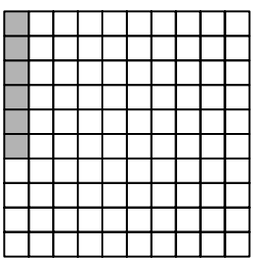
D $2.58 < 2.09$

14 This figure is shaded to represent the number 1.



Which of the following numbers is represented by the shaded part of the figure below?





F 1.006

G 1.06

H 1.6

J 16.0

15 Which means "nine hundred sixty-three thousandths"?

A 9,630

B 0.963

C 0.0963

D 0.90063

GO ON

16 The table shows last season's earned run averages (ERAs) for the four best pitchers in the Roanoke Little League.

Pitcher	ERA
Rasmund	2.34
Feinstein	2.54
Gotkowski	2.59
Johnson	2.65

Which pitcher's ERA is 2.6 when rounded to the nearest tenth?

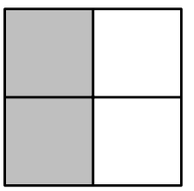
F Rasmund
G Feinstein
H Gotkowski
J Johnson

17 What number goes in the blank space to make the statement below true?

$$\frac{1}{3} = \frac{\quad}{9}$$

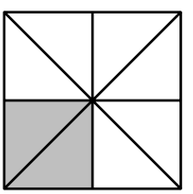
A 1
B 3
C 4
D 6

18 Eddie shaded a fraction of this square.

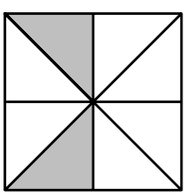


Which shows an equivalent fraction shaded?

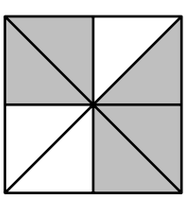
F



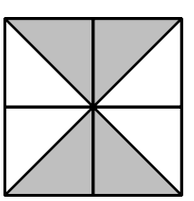
G



H



J



GO ON

19 **Which of the following has a value less than $\frac{1}{2}$?**

A $\frac{2}{3}$

B $\frac{7}{10}$

C $\frac{1}{4}$

D $\frac{3}{5}$

20 **There were 75,631 people at a concert. What is that number rounded to the nearest ten thousand people?**

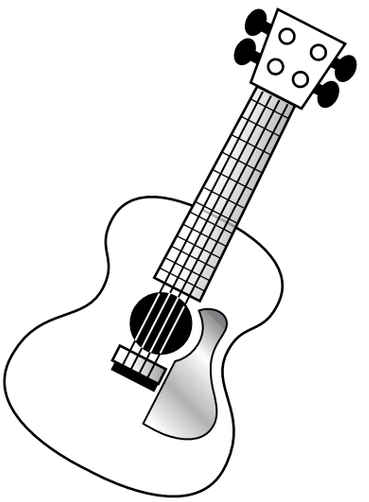
F 60,000

G 70,000

H 80,000

J 90,000

21 **Use your centimeter ruler to help you answer this question.**



Which is *closest* to the length of the toy guitar shown above?

A 5 cm

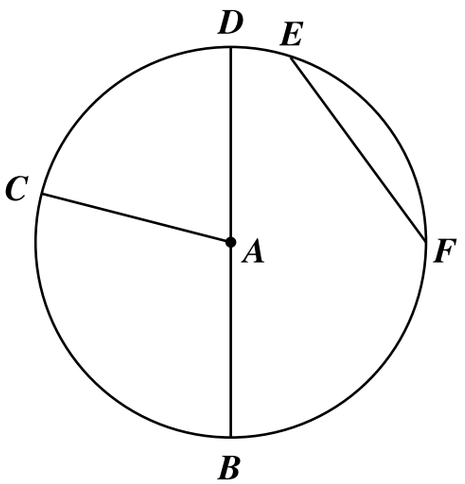
B 6 cm

C 7 cm

D 8 cm

GO ON

22 Point *A* is the center of the circle.



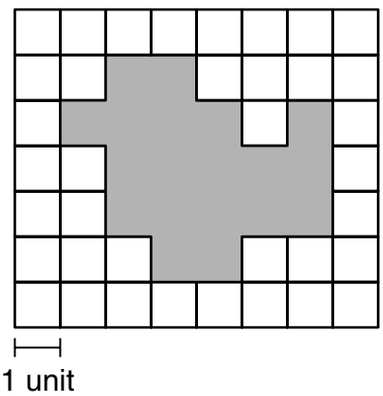
$\overline{EF}$ is best described as —

F a radius
G a chord
H a diameter
J an arc

23 Which unit could be used for measuring the weight of a rock?

A Square inch
B Mile
C Milliliter
D Kilogram

24 What is the perimeter of the shaded figure on the grid below?



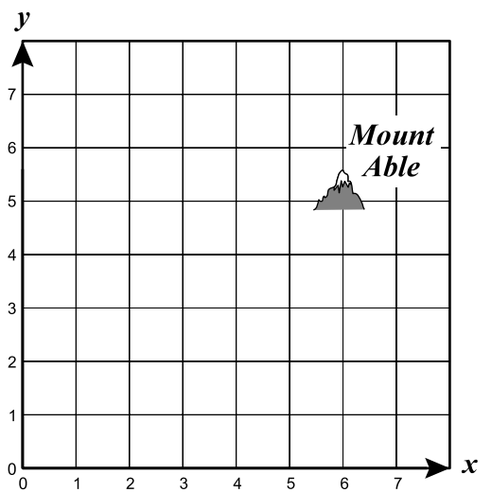
F 20 units
G 21 units
H 22 units
J 24 units

25 For a field trip, Alice's class left the school at 7:10 a.m. The class returned to the school at 8:23 p.m. the same day. How long was the class away for the field trip?

A 47 minutes
B 1 hour, 13 minutes
C 13 hours, 13 minutes
D 13 hours, 47 minutes

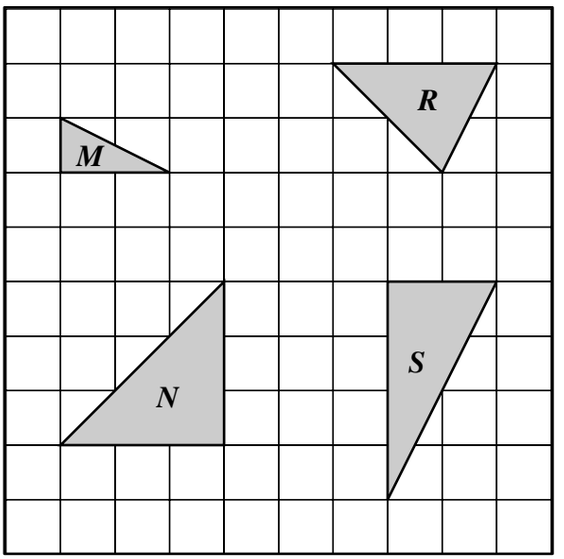
GO ON

26 Which coordinates best describe the location of Mount Able?



F (5, 6)
G (5, 5)
H (6, 5)
J (6, 6)

27 Four triangles are shown on the grid below.

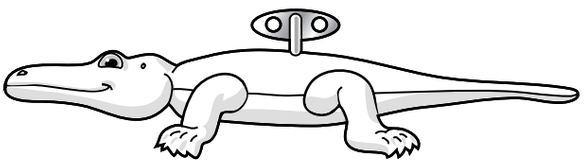


Which two triangles appear to be similar?

A M and S
B M and N
C N and S
D R and N

GO ON

28 Use your inch ruler to help you answer this question.



Which is *closest* to the length of the toy alligator shown above?

F $3\frac{1}{8}$ in.

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

H $4\frac{1}{8}$ in.

J $4\frac{1}{2}$ in.

29 Which of these would require finding the perimeter of something?

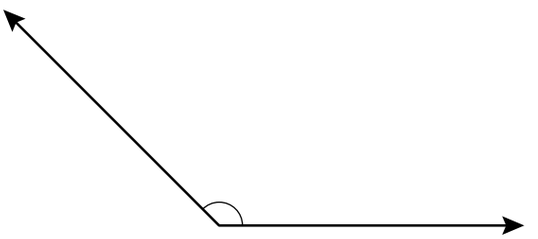
A Buying enough fencing to go around your front yard

B Buying enough carpet for the floor of your classroom

C Buying enough paint to cover the door of your classroom

D Buying a tablecloth big enough to cover a table

30



Which of the following describes the angle shown above?

F Right

G Acute

H Obtuse

J Straight

31 Which of the solid shapes listed below has *no* vertices?

A Sphere

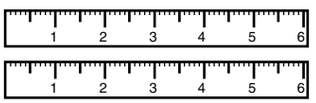
B Pyramid

C Cube

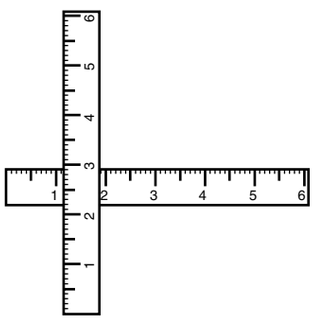
D Cone

32 Which pair of rulers is best described as perpendicular?

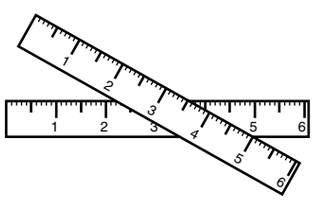
F



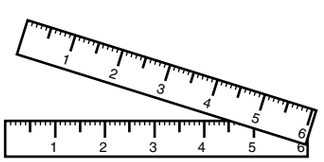
G



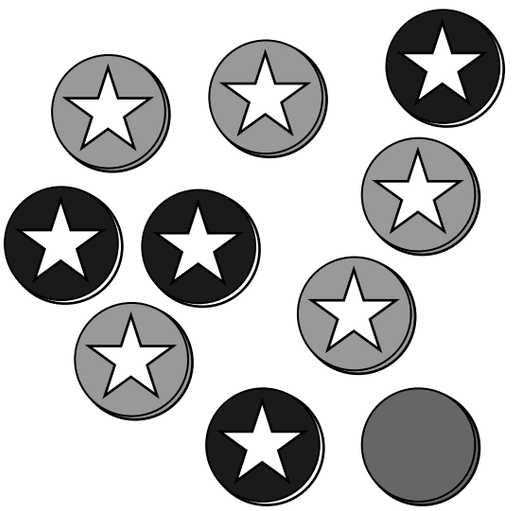
H



J



33 Irene has a group of counters like the ones pictured below. In the group are 9 counters with a star on them and 1 counter without a star.



If one counter is chosen from the group without looking, which of the following best describes the chances that it will be the one *without* a star?

A Certain

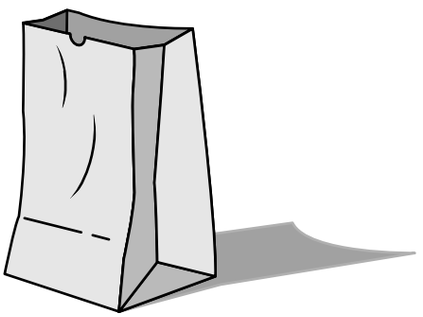
B Likely, but not certain

C Unlikely, but not impossible

D Impossible

GO ON

34 **Manuel has 9 milk chocolate candy bars and 1 dark chocolate candy bar in a bag. All the candy bars are the same size and shape.**



What is the probability that the first candy bar taken from the bag without looking will be milk chocolate?

F $\frac{9}{1}$

G $\frac{9}{10}$

H $\frac{1}{9}$

J $\frac{1}{10}$

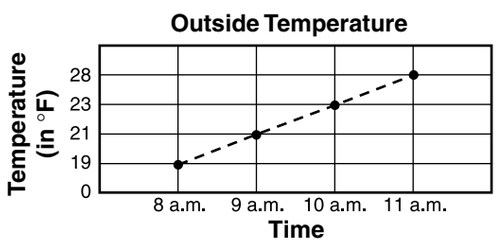
35 **Last winter, Julie recorded the outside temperature each hour for four hours. The table below shows the results.**

Outside Temperature

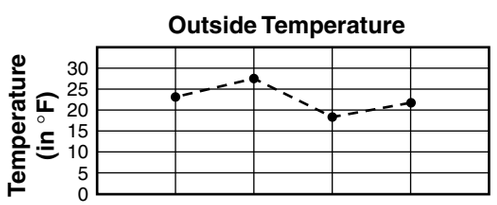
Time	Temperature (in °F)
8 a.m.	23°
9 a.m.	28°
10 a.m.	19°
11 a.m.	21°

Which of the following shows this information graphed correctly?

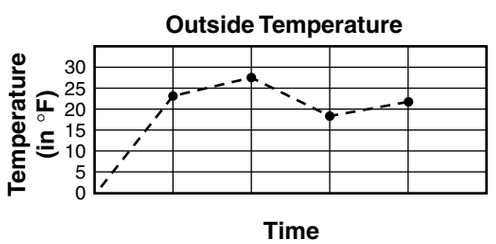
A



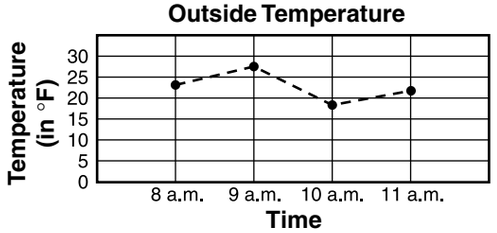
B



C



D



GO ON

36 Stephanie's school has a tutoring program after school and on Saturdays. This lists the number of students who came to tutoring for the last two weeks.

14	**35**	**22**	**28**
25	**30**	**43**	**16**
39	**41**	**24**	**30**

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

F

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

G

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

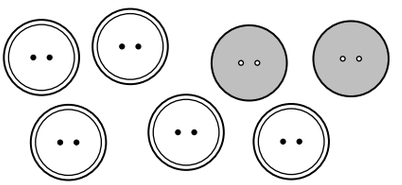
H

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

J

Stem	Leaf
1	2
2	4
3	4
4	2

37 Andrew has these buttons to use for a design.



Which of the following questions about these buttons could you use probability to solve?

A How many more white buttons than gray buttons does Andrew have?

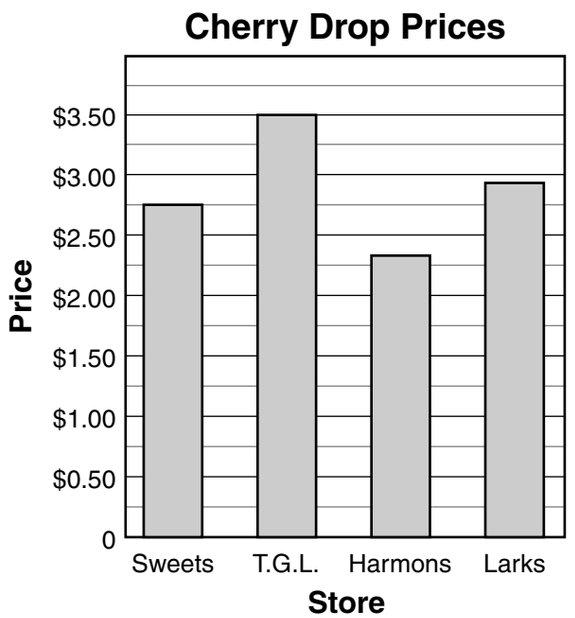
B How many buttons does Andrew have in all?

C If Andrew gives 2 buttons to Cissy, how many will be left?

D If Andrew picks 1 button without looking, what color is it most likely to be?

GO ON

38 The graph below shows the price of a bag of cherry drops at four different stores.



Which is *closest* to the price of a bag of cherry drops at Harmons?

F $2.20
G $2.30
H $2.50
J $2.70

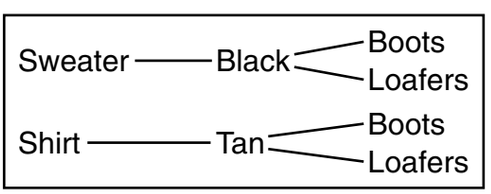
39 The chart below shows the choices Ms. Diego has for getting dressed.

Top	Pants	Shoes
Sweater Shirt	Black Tan	Boots Loafers

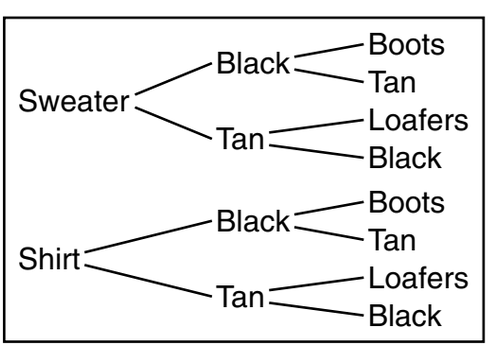
Which tree diagram shows all the possible combinations of 1 top, 1 color of pants, and 1 kind of shoes?

A

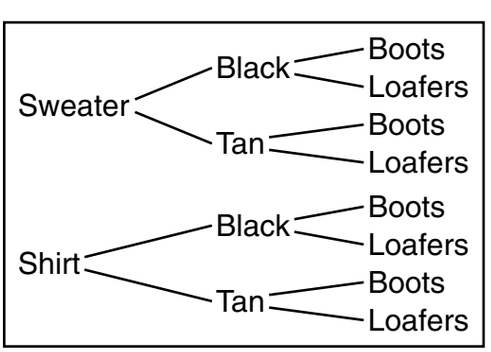
B



C



D



GO ON

40 **The table below shows the amount some plants grew over the same period of time.**

Plant Growth

Plant	Amount of Growth (in centimeters)
A	8
B	14
C	9
D	10
E	12
F	11
G	9
H	7

What is the range of this set of data?

F 7 cm
G 9 cm
H 10 cm
J 11 cm

41 **The table below shows the total cost of different numbers of notebooks.**

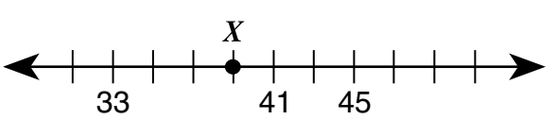
Cost of Notebooks

Number of Notebooks	Total Cost
1	$3.50
2	$7.00
3	$10.50
4	$14.00
5	$17.50

Based on the information in the table, what will be the total cost of 10 notebooks?

A $21.00
B $24.50
C $31.50
D $35.00

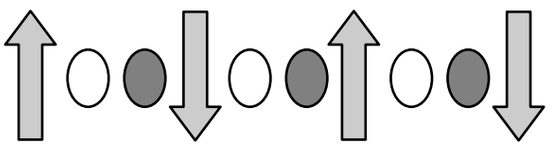
42 **Which best describes the location of point *X* on the number line shown below?**



F 36
G 37
H 39
J 40

GO ON

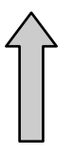
43 **The first ten shapes in a pattern are shown below. Lionel is making the pattern by repeating the first six shapes in the same order as shown in the picture.**

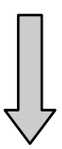


If Lionel continues the pattern in the same way, what will be the 16th shape in the pattern?

A 

B 

C 

D 

44 **A number machine uses a rule to change numbers into different numbers. The table below shows what happened when different numbers went into the same number machine.**

Input (x)	Output (y)
7	15
12	20
15	23
28	36

Which of the following could be the rule used by this number machine?

F Multiply by 3, then subtract 6

G Multiply by 2, then add 1

H Add 5

J Add 8

GO ON

45 Which of the following goes in the box to make the statement below true?

(75 + 167) + 92 = ☐

A $75 + (167 \times 92)$

B $92 + (167 + 75)$

C $(92 + 75) + (92 + 167)$

D $167 - (75 + 92)$

46 Which of the following goes in the box to make the statement below true?

(13 × 8) × 25 = ☐

F $(13 \times 25) + (13 \times 8)$

G $(13 \times 25) + (8 \times 25)$

H $13 \times (8 + 25)$

J $13 \times (8 \times 25)$

47 If N represents a number, which of the following means "10 divided by a number"?

A $10 - N$

B $10 + N$

C $10 \times N$

D $10 \div N$

48 Which of these could be solved by using the open sentence $D + 2 = ?$

F Lonnie earned \$2 more than Blanca. If D is the amount in dollars that Blanca earned, how much did Lonnie earn?

G Stephen spent \$2 on a notebook. If D is the amount of money that he started with, how much does Stephen have left?

H Diana earns \$2 each time she washes the family car. If D is the total amount of money that she earned last year by washing the car, how many times did she wash the car?

J The math club makes \$2 on each box of dominoes that it sells. If D is the number of boxes of dominoes that the club sold, how much did it make in all?

49 **The table shows the cost of cans of paint.**

Number of Cans	Total Cost
1	$6.00
2	$12.00
3	$18.00
4	$24.00
5	?

How much would 5 cans of paint cost?

A $20.00

B $28.00

C $30.00

D $32.00

50 **If L represents the number of lambs a farmer owned, which of the following could be used to find the number of lambs he had after selling three of the lambs?**

F $L \div 3 = ?$

G $L \times 3 = ?$

H $L + 3 = ?$

J $L - 3 = ?$

STOP

Answer Key

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