

**VIRGINIA
STANDARDS OF LEARNING ASSESSMENTS**

Spring 2003 Released Test

**GRADE 5
MATHEMATICS**

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Mathematics

DIRECTIONS

Read and solve each question.

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

$$\begin{array}{r} 143,065 \\ - 7,183 \\ \hline \end{array}$$

- A 135,122
- B 135,882
- C 144,122
- D 144,248

- 2** The table below shows the number of phone calls a radio station received each week for the last month.

Weekly Phone Calls

Week	Number of Calls Received
1	6,289
2	7,941
3	4,306
4	6,755

Which is the *best estimate* of the total number of calls received in the four-week period?

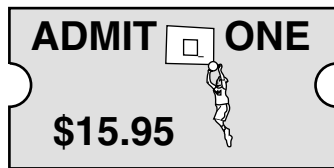
- F 15,000
- G 20,000
- H 25,000
- J 30,000

3

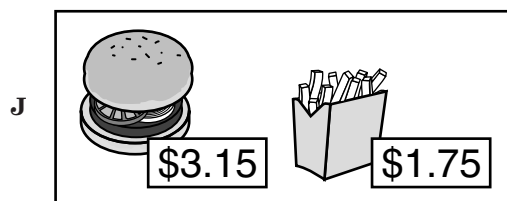
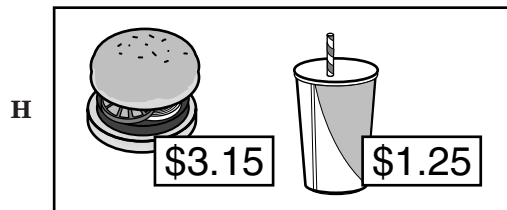
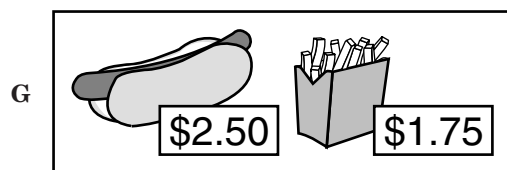
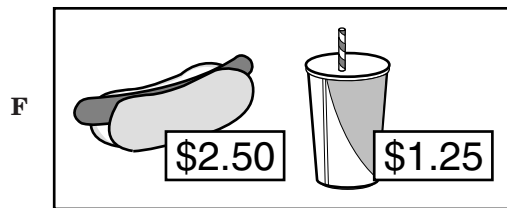
$$\begin{array}{r} 89 \\ \times 47 \\ \hline \end{array}$$

- A 1,216
- B 4,183
- C 5,443
- D 8,899

- 4 Tyrone has \$20 to spend at the basketball game. He must use part of that amount to pay for his ticket.



If the ticket costs \$15.95, which of the following would he also be able to buy?



- 5 Mr. Lang planted 35 rows of corn. There are 15 corn plants in each row. How many corn plants is that in all?

- A 455
B 510
C 525
D 615

6

$$\begin{array}{r} 8\frac{4}{5} \\ - \quad 1\frac{1}{2} \\ \hline \end{array}$$

F $8\frac{3}{5}$

G $8\frac{3}{10}$

H $7\frac{3}{10}$

J $7\frac{2}{3}$

7 $44.87 \div 7 =$

- A 6.41
B 0.641
C 0.6041
D 0.0641

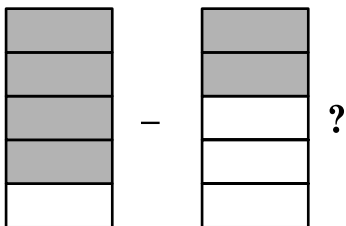
8 $495,208 + 26,984 =$

- F 411,182
- G 511,192
- H 522,192
- J 622,182

9 This is 1.



What is



- A $\frac{1}{5}$
- B $\frac{2}{5}$
- C $\frac{1}{2}$
- D $\frac{2}{3}$

10 $4,734 \div 18 =$

- F 116
- G 263
- H 277
- J 303

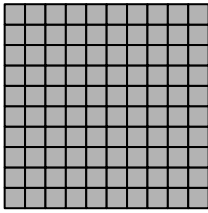
11 On field day, Nancy jumped $4\frac{7}{12}$ feet.

Abe jumped $3\frac{1}{6}$ feet. How much farther

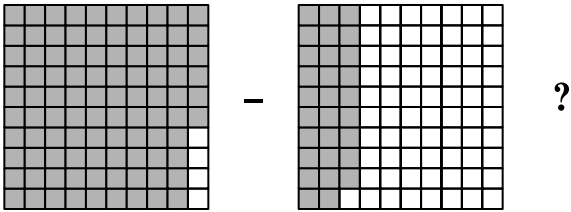
did Nancy jump than Abe?

- A 2 feet
- B $1\frac{5}{6}$ feet
- C $1\frac{5}{12}$ feet
- D $\frac{5}{12}$ feet

12 This is 1.



What is



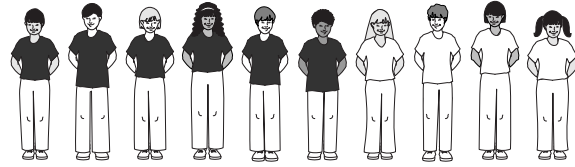
- F 0.63
- G 0.67
- H 0.73
- J 0.77

13 Which of the following makes the statement below true?

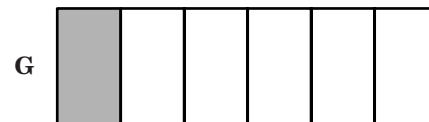
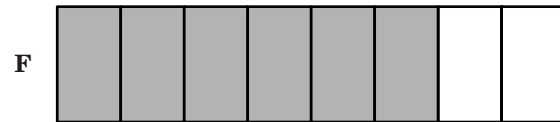
$$\underline{\hspace{2cm}} < 1,390,876$$

- A 1,409,540
- B 1,395,760
- C 1,398,001
- D 1,289,799

14 A fraction of the group of students below is wearing a dark shirt.



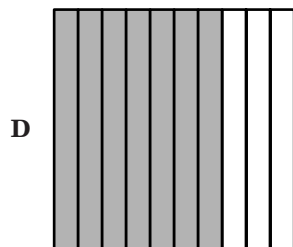
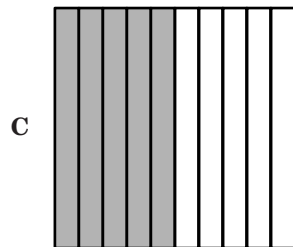
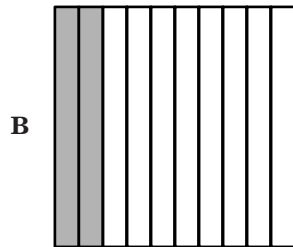
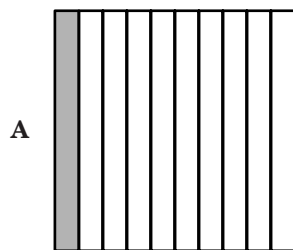
Which of the following is shaded to represent a fraction with the same value?



- 15 A fraction of the candles below is lit.



Which of the following is shaded to represent a decimal with the same value?



- 16 On Saturday, Lisa recorded four and five-tenths inches of rain. Which of the following shows that amount written in numerals?

- F 0.45
- G 4.05
- H 4.5
- J 45.0

- 17 Riley read that the population of Virginia in 1790 was 747,610. What is 747,610 rounded to the nearest hundred thousand people?

- A 700,000
- B 747,000
- C 750,000
- D 800,000

- 18 The United States Mint lists the standard weight of a United States dime as 2.268 grams. What is the value of the 8 in that number?

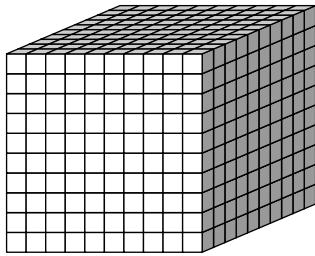
- F Eight thousandths
- G Eight hundredths
- H Eight tenths
- J Eight

- 19 What number goes in the box to make the statement shown below true?

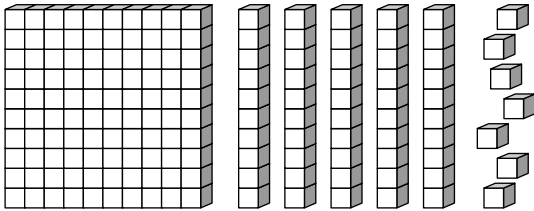
$$\frac{1}{5} = \frac{\square}{10}$$

- A 1
- B 2
- C 5
- D 10

- 20 This figure represents the number 1.

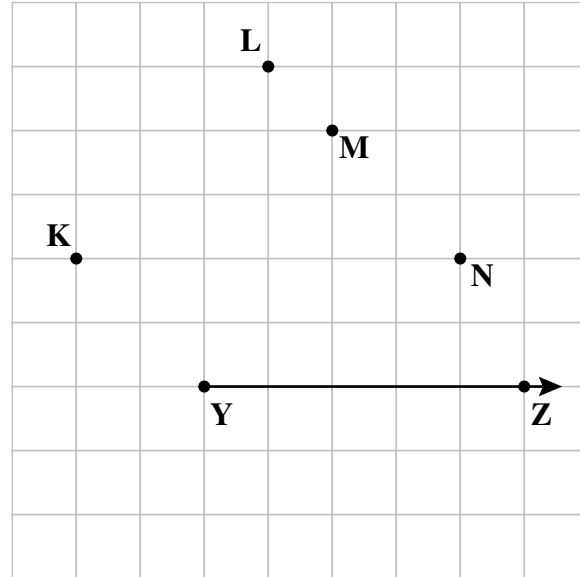


Which of the following numbers is represented by the group of figures below?



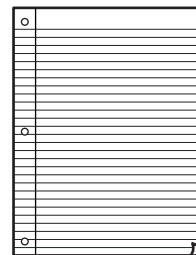
- F 0.157
- G 0.175
- H 0.517
- J 0.571

- 21 Laura connected points Y and Z to make one side of an angle. Which other point should she connect to point Y in order to make a 28° angle?



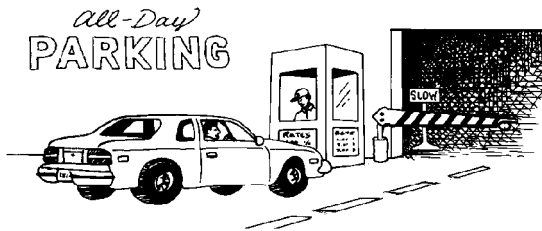
- A K
- B L
- C M
- D N

- 22 Which unit would *most often* be used to determine the mass of one piece of notebook paper?



- F Kilogram
- G Gram
- H Meter
- J Liter

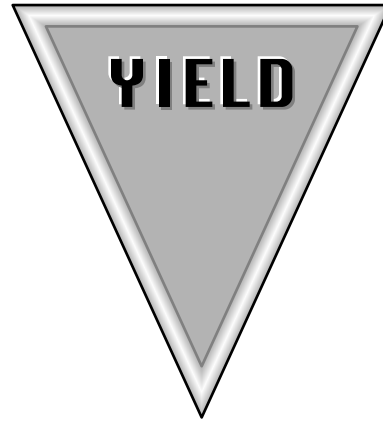
- 23 When Mr. Murphy pulled into the parking garage to park his car, the time stamped on his ticket was 10:12 a.m. The time when he left the garage that afternoon was 5:43 p.m. What length of time was Mr. Murphy's car in the parking garage?



- A 7 hr 31 min
- B 7 hr 55 min
- C 15 hr 31 min
- D 15 hr 55 min

- 24 Use your centimeter ruler to help you answer this question.

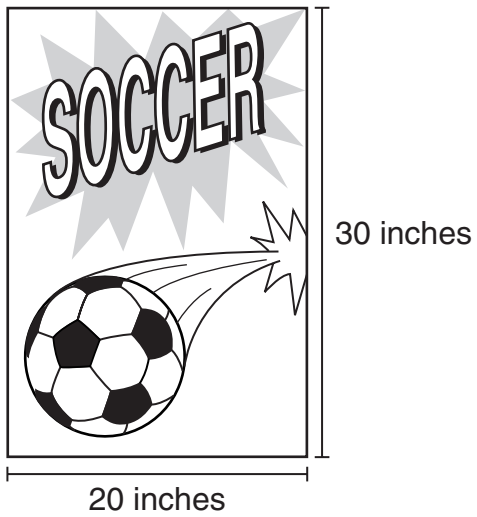
What is the perimeter of the picture of the sign shown below?



- F 12 centimeters
- G 17 centimeters
- H 30 centimeters
- J 180 centimeters

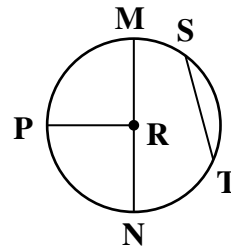
Note that due to varying printer properties, measurement items may not appear in exact proportions.

- 25 What is the area of the rectangular poster shown below?



- A 50 sq in.
- B 80 sq in.
- C 100 sq in.
- D 600 sq in.

- 26 In the figure below, point R is the center of the circle.

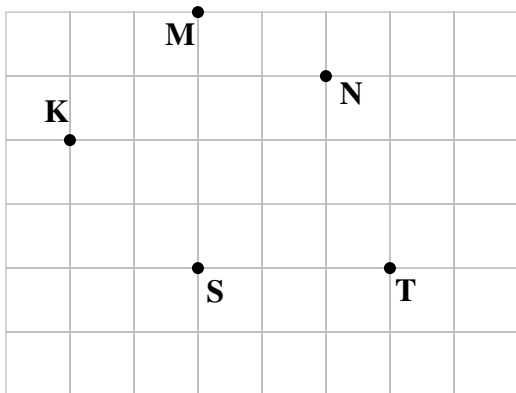


Which of the following is a chord of the circle?

- F \overline{ST}
- G \overline{PR}
- H \overline{MR}
- J \overline{RN}

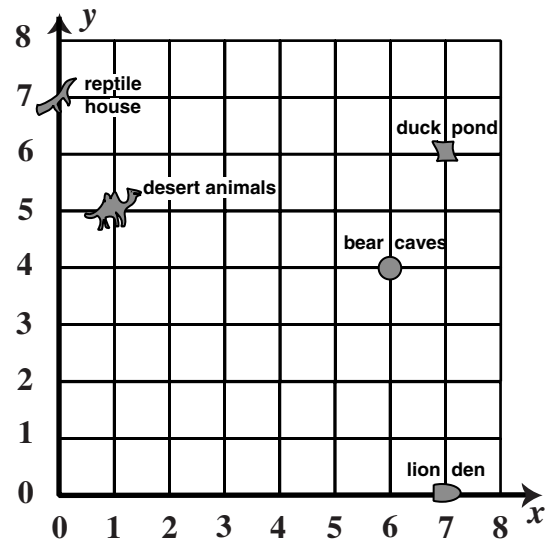
- 27 Use your ruler as a straightedge to help you answer this question.

On the grid below, connect point K to point M, then connect point M to point S. What kind of angle has been formed?



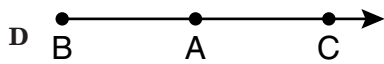
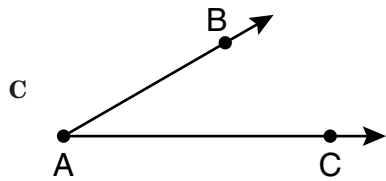
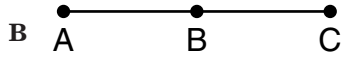
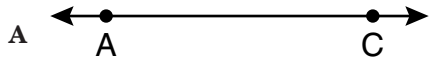
- A Acute
- B Right
- C Obtuse
- D Straight

- 28 Which *best describes* the location of the duck pond in the figure below?

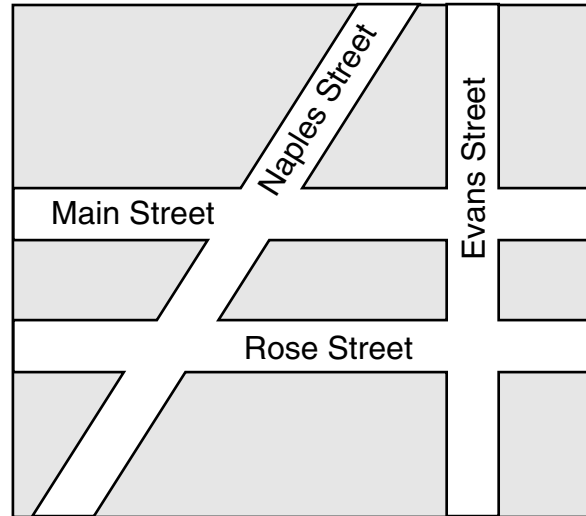


- F (5, 6)
- G (6, 7)
- H (7, 0)
- J (7, 6)

29 Which of the following includes ray AB and ray AC?

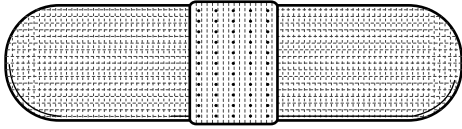


30 On the map below, which two streets are best described as parallel?



- F Main St and Naples St
- G Main St and Rose St
- H Rose St and Evans St
- J Naples St and Evans St

- 31 Use your inch ruler to help you answer this question. Which is *closest* to the length of the bandage shown below?



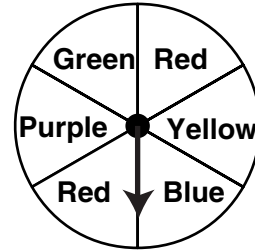
- A $2\frac{1}{8}$ in.
B $2\frac{3}{8}$ in.
C $2\frac{5}{8}$ in.
D $2\frac{7}{8}$ in.

Note that due to varying printer properties, measurement items may not appear in exact proportions.

- 32 Tina used 1 liter of chicken broth to make her special rice dish. This amount of chicken broth is *closest* to —

- F 1 ounce
G 1 cup
H 1 pint
J 1 quart

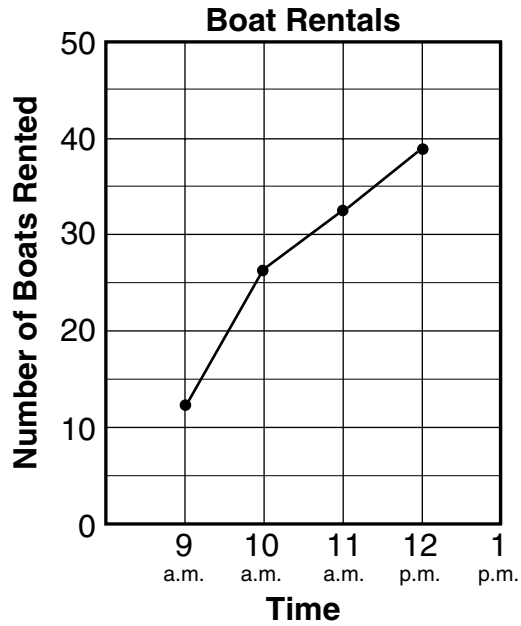
- 33 All the sections on the spinner below are the same size.



If the spinner is spun one time, what is the probability that the arrow will land on a space marked Red?

- A $\frac{2}{4}$
B $\frac{2}{6}$
C $\frac{1}{4}$
D $\frac{1}{6}$

- 34 Mr. Billings rents boats at Marsh Lake. The line graph below shows how the number of boats being used changed over a three-hour period.



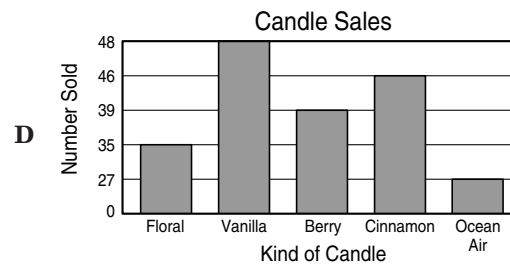
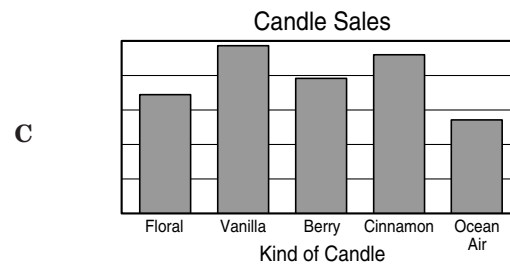
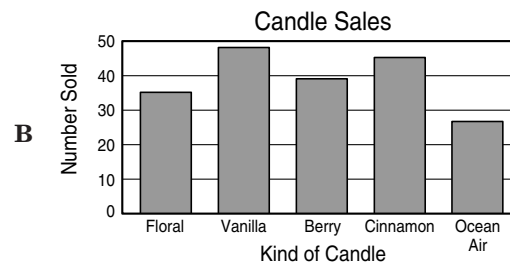
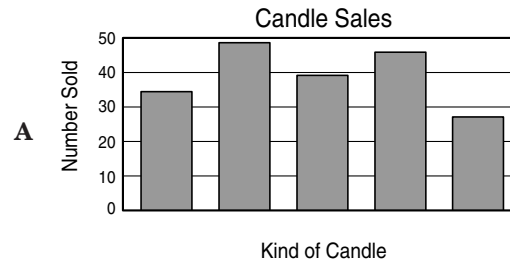
Which is *closest* to the number of boats that were being used at 10 a.m.?

- F 5
- G 16
- H 21
- J 26

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

Candle Sales	
Kind of Candle	Number Sold
Floral	35
Vanilla	48
Berry	39
Cinnamon	46
Ocean Air	27

Which of the following shows this information correctly graphed?



36 In Sheila’s class, there are 5 students with red hair, 8 students with blond hair, and 9 students with brown hair. Which of the following questions about these students could you use probability to solve?

- F How many students are in Sheila’s class all together?
- G If the teacher picks 1 student at random, what color hair is that student most likely to have?
- H How many more students have brown hair than red hair?
- J If the teacher buys 2 pencils for each student, how many pencils will she buy?

37 This lists the number of points Cassie’s team scored in each of their games.

17 22 39 26 25
33 37 43 18 39
29 50 41 24 48

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

A

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

B

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

C

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

D

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

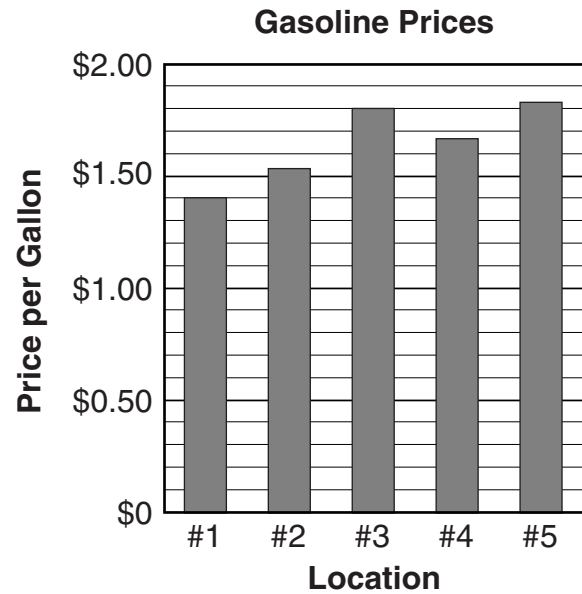
38 The table below shows the number of blocks Susan walked each day last week.

Mon.	Tues.	Wed.	Thur.	Fri.
21	18	15	18	13

What was the mean (average) number of blocks she walked each day?

- F 15
- G 17
- H 18
- J 21

39 On Saturday, Joseph compared the price of one gallon of regular gasoline at five different locations. The graph below shows the prices he recorded.



Which is *closest* to the price of one gallon of gasoline at location #5?

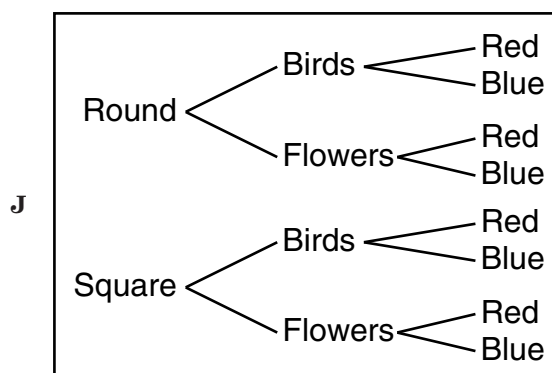
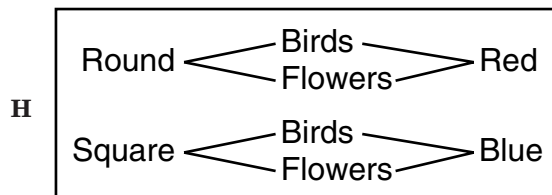
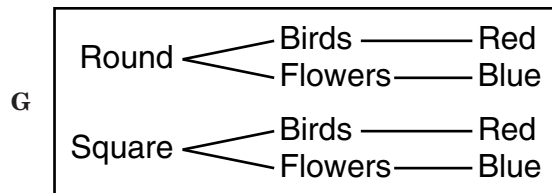
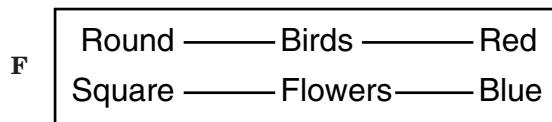
- A \$1.82
- B \$1.75
- C \$1.53
- D \$1.08

- 40 Everyone in art class is making a special plate. The table below shows the different choices of shape, design, and color that can be used.

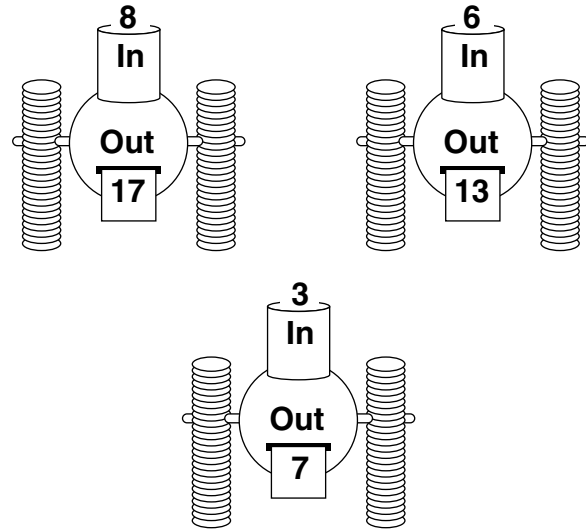
Plate Choices

Shape	Design	Color
Round	Birds	Red
Square	Flowers	Blue

Which of the following tree diagrams shows all the different kinds of plates that can be designed using 1 shape, 1 design, and 1 color?



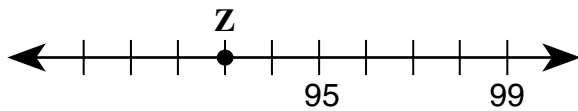
- 41 The picture below shows what happened when different numbers were put into the same number machine.



Which could be the rule used in this number machine?

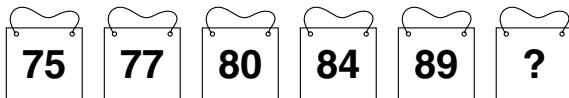
- A Multiply by 3, then subtract 5
- B Multiply by 2, then add 1
- C Add 9
- D Subtract 4

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



- F 89
- G 90
- H 92
- J 93

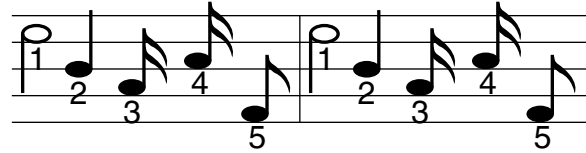
- 43 Each person running in a race will get a card with a number on it. Look at the pattern of numbers on the cards below.



If the pattern continues, what number will be on the next card?

- A 90
- B 93
- C 95
- D 97

- 44 Iris is writing music for a video game. The picture below shows how a pattern of 5 notes repeats while the game is played.



If the pattern continues, what kind of note will be the 12th note played?



- 45 Mr. Cooper is ordering some books from a catalog. The total cost includes the cost of the book plus an additional charge for shipping. The table below shows how the total cost changes as the number of books ordered increases.

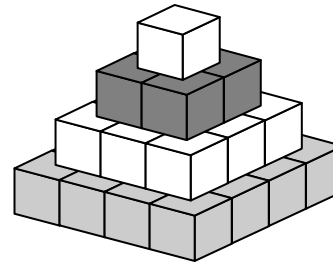
Book Costs

Number Ordered	Total Cost
1	\$10.50
2	\$18.50
3	\$26.50
4	\$34.50
5	\$42.50

Based on the pattern shown in the table, which of the following rules could Mr. Cooper use to determine the total cost for any number of books?

- A Multiply the number of books by \$9.25
- B Multiply the number of books by \$10.50
- C Multiply the number of books by \$10 and add 50¢ for shipping
- D Multiply the number of books by \$8 and add \$2.50 for shipping

- 46 A rule is used to determine the number of blocks in each level of the figure shown below.



The table below shows the number of blocks that are in each level of the figure above.

Blocks Needed

Level	Number of Blocks
1	1
2	4
3	9
4	16

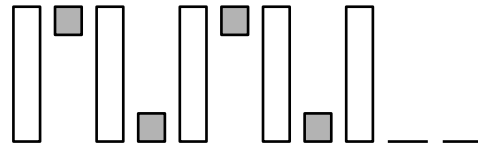
Using this rule, how many blocks will be needed to make Level 10?

- F 20
- G 40
- H 100
- J 1,000

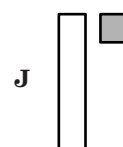
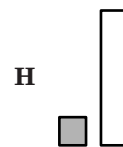
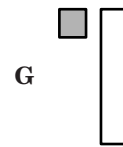
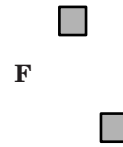
47 Bella made 3 times as many cupcakes as Eric. If E represents the number of cupcakes Eric made, which of the following could be used to find the number of cupcakes Bella made?

- A $E + 3 = ?$
- B $E \times 3 = ?$
- C $E \div 3 = ?$
- D $E - 3 = ?$

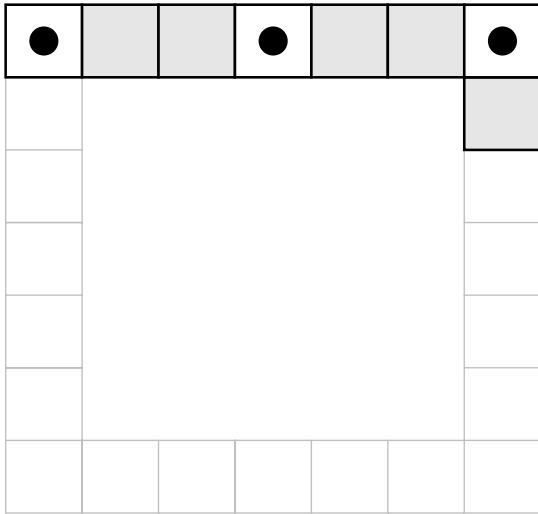
48 Look at the pattern of shapes shown below.



If the pattern continues, what will the next two shapes look like?



- 49 The picture below shows how Kenta plans to create a tile border around the edge of a table.



If the pattern is continued all the way around the table, how many tiles with dots in the center will be needed in all?

- A 8
- B 9
- C 11
- D 12

- 50 Pat is using a rule to make the list of numbers shown below.

48, 39, 30, 21, 12, —

If she continues using the same rule, what will be the next number in the list?

- F 11
- G 9
- H 7
- J 3

Answer Key

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