

VIRGINIA STANDARDS OF LEARNING

Spring 2010 Released Test

# GRADE 3 MATHEMATICS

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Form M0110, CORE 1

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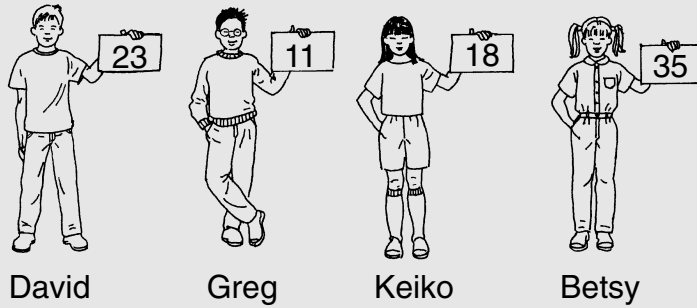
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**Directions**

Read each question and choose the best answer.

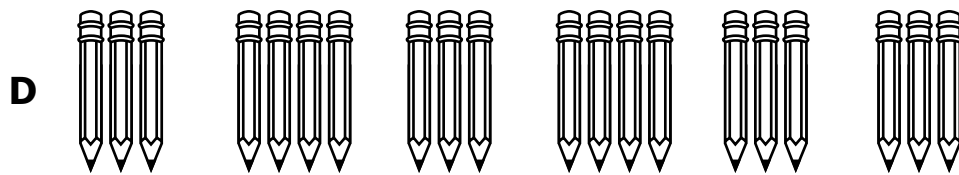
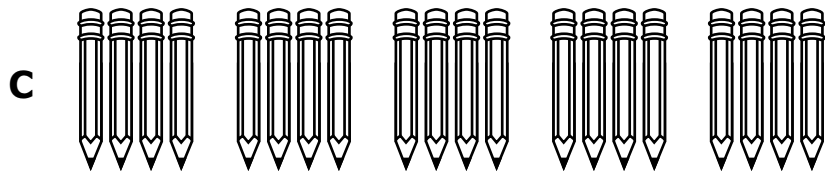
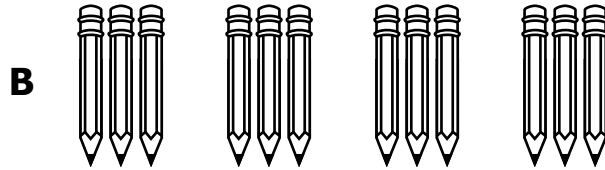
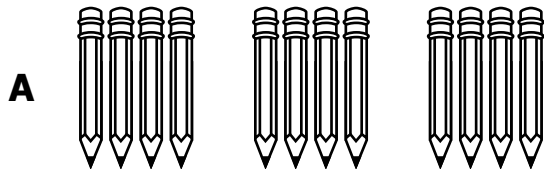
**SAMPLE**



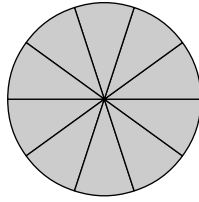
**Who is holding a card with an even number on it?**

- A** David
- B** Greg
- C** Keiko
- D** Betsy

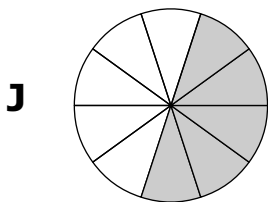
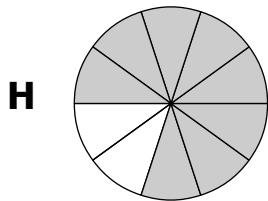
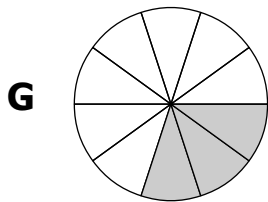
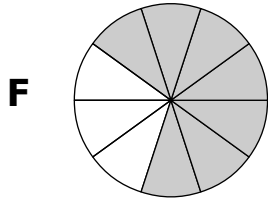
**1 Rosa placed 20 pencils in groups of 4. Which of the following shows how Rosa placed the pencils?**



2 The model below is shaded to represent the number 1.



Which of the following shows 0.7 shaded?



**3 Which number sentence can be completed by using the basic fact sentence  $17 - 8 = 9$  ?**

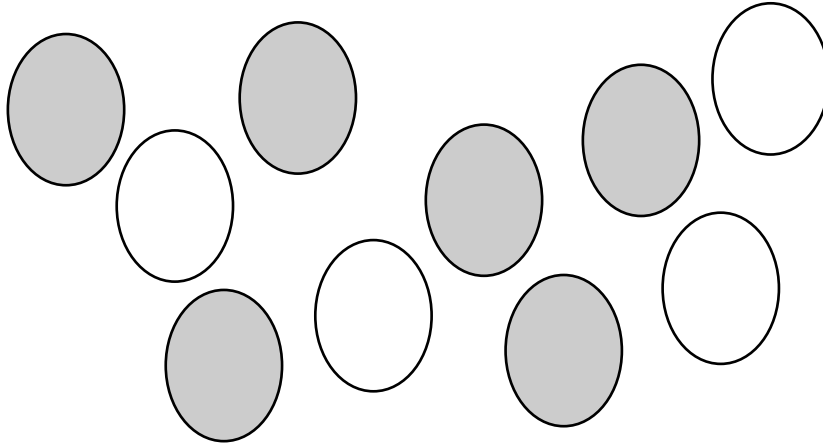
**A**  $17 + 8 = \underline{\quad}$

**B**  $17 + 9 = \underline{\quad}$

**C**  $9 + 8 = \underline{\quad}$

**D**  $9 - 8 = \underline{\quad}$

**4 Look at this set of shapes.**



**What fraction of this set is shaded?**

**F**  $\frac{4}{10}$

**G**  $\frac{4}{6}$

**H**  $\frac{6}{10}$

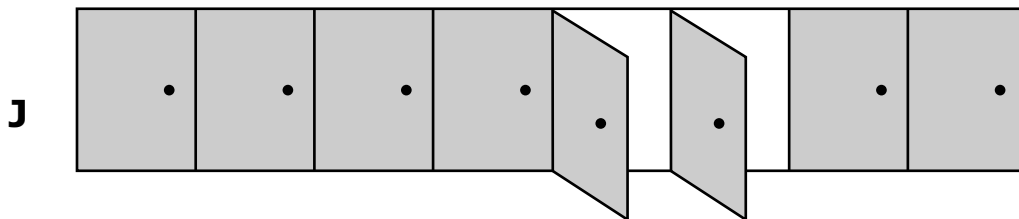
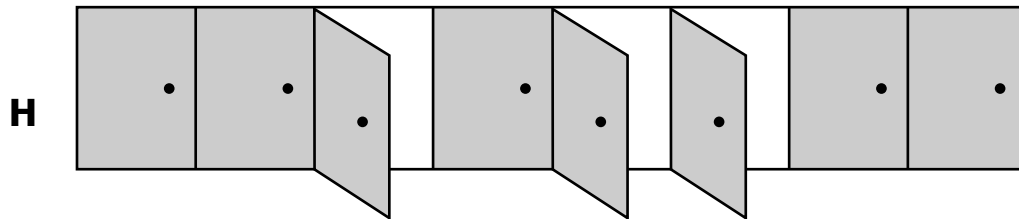
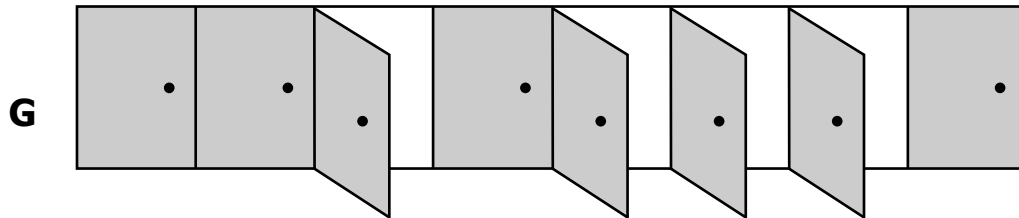
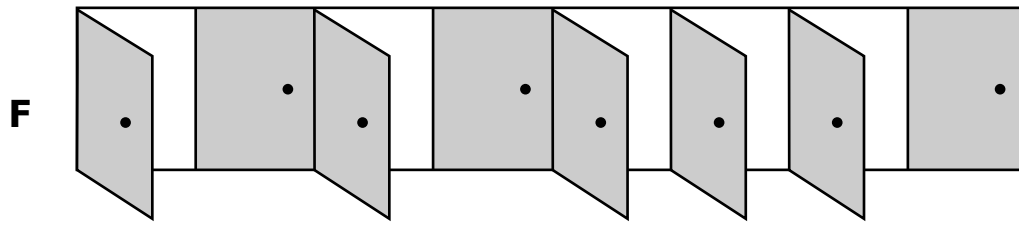
**J**  $\frac{6}{4}$

**5 Fred's Nature Store sold 2,046 pounds of birdseed last month. What is 2,046 rounded to the nearest hundred?**

- A** 2,000
- B** 2,040
- C** 2,100
- D** 3,000



6 In which group are EXACTLY  $\frac{3}{8}$  of the cabinet doors open?



**7 Which is true?**

- A**  $4,589 > 4,708$
- B**  $4,389 > 4,708$
- C**  $4,709 > 4,708$
- D**  $4,609 > 4,708$

**8 Jeffrey used the math fact  $6 \times 4 = 24$  to help solve a related problem. Which of these could be the related problem Jeffrey was trying to solve?**

**F**  $\square \div 4 = 6$

**G**  $\square \times 4 = 6$

**H**  $\square - 4 = 6$

**J**  $\square + 4 = 6$

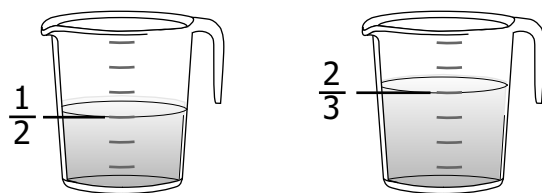
**9 Which of the following shows “one hundred thirty thousand, sixty-nine” in standard form?**

- A** 100,369
- B** 130,069
- C** 130,690
- D** 1,003,069

**10 A video store has 1,328 movies that can be rented. What is 1,328 rounded to the nearest ten?**

- F** 1,300
- G** 1,310
- H** 1,320
- J** 1,330

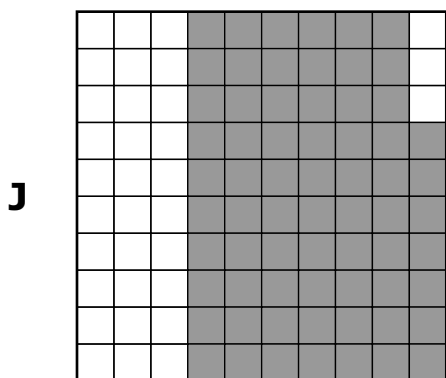
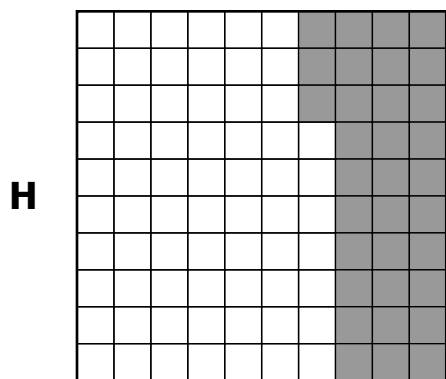
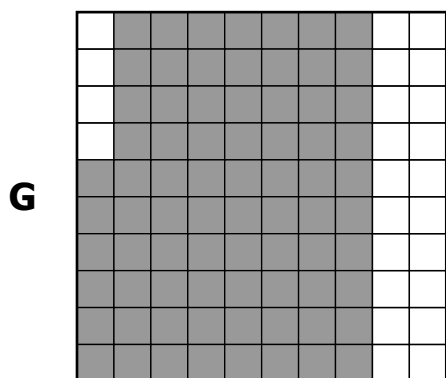
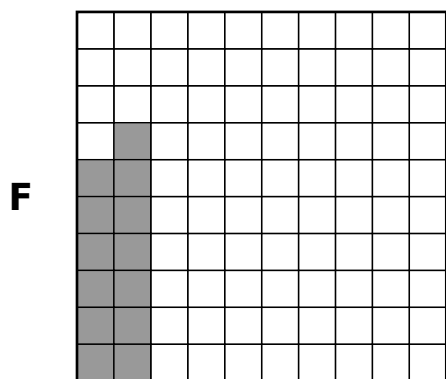
- 11 The picture below shows how much milk was poured into two measuring cups.



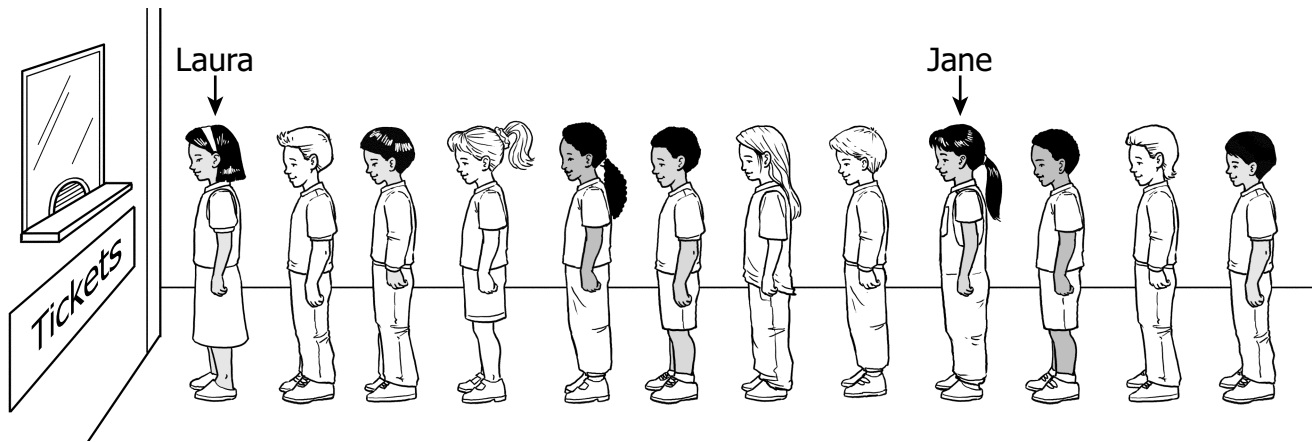
Which statement is true?

- A  $\frac{1}{2} < \frac{2}{3}$
- B  $\frac{1}{2} > \frac{2}{3}$
- C  $\frac{1}{2} = \frac{2}{3}$
- D  $\frac{1}{2} < \frac{1}{3}$

12 Kelsey shaded 0.67 of her  $10 \times 10$  grid. Which of the following shows 0.67 of the grid shaded?



**13 Jane is standing in line to buy tickets for a play. Laura is first in line, as shown.**



**What is Jane's position in this line?**

- A** 12th
- B** 10th
- C** 9th
- D** 8th

**14**      $2.6 - 1.8 = \underline{\quad ? \quad}$

**F** 4.4

**G** 1.2

**H** 0.8

**J** 0.2

**15** Myra made 84 cupcakes for a bake sale. She put 3 chocolate candies on top of each cupcake. What was the total number of chocolate candies she used for the tops of the cupcakes?

**A** 252

**B** 261

**C** 272

**D** 2,412

**16**      $28 \div 7 = \underline{\quad ? \quad}$

**F** 3

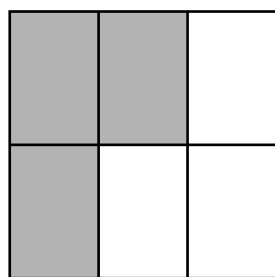
**G** 4

**H** 6

**J** 8

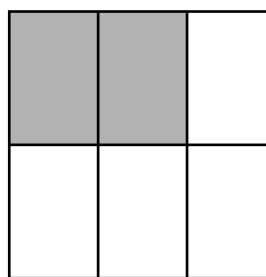
17 Devon used these models to add two fractions.

Model 1



$$\frac{3}{6}$$

Model 2



$$\frac{2}{6}$$

What is  $\frac{3}{6} + \frac{2}{6}$ ?

A  $\frac{1}{6}$

B  $\frac{5}{12}$

C  $\frac{7}{12}$

D  $\frac{5}{6}$



**18 Which is a related fact to this number sentence?**

$$\square + 5 = 12$$

**F**  $5 + \square = 7$

**G**  $12 + 7 = \square$

**H**  $12 + 5 = \square$

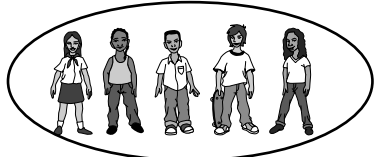
**J**  $5 + \square = 12$

19 Which picture of students best models the fact  $3 \times 5$  ?

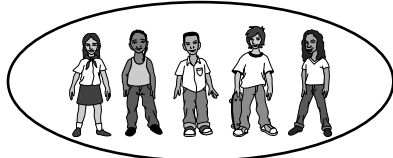
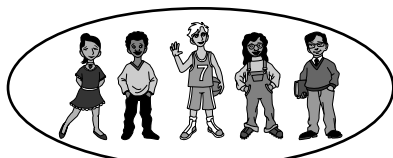
A



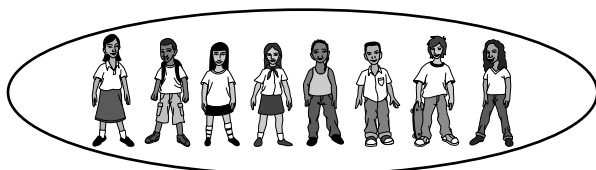
B



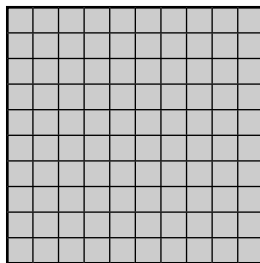
C



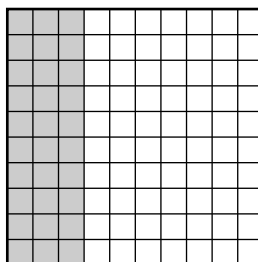
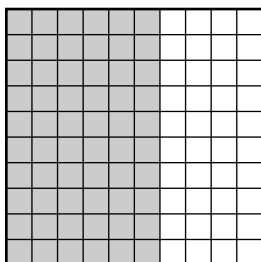
D



20 This model represents one whole.



What is  $0.6 - 0.3$  ?



**F** 0.3

**G** 0.9

**H** 1.1

**J** 6.3

21  $8 \times 6 = \underline{\quad ? \quad}$

**A** 14

**B** 40

**C** 48

**D** 56

22  $7,469 - 238 = \underline{\quad ? \quad}$

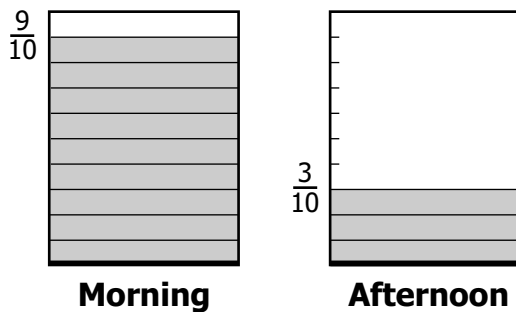
F 5,089

G 5,129

H 7,131

J 7,231

23 The level of paper in an office copy machine decreased from the morning to the afternoon during one day.



What is  $\frac{9}{10} - \frac{3}{10}$  ?

A  $\frac{6}{0}$

B  $\frac{6}{10}$

C  $\frac{12}{10}$

D  $\frac{12}{20}$

- 24** The table shows the number of pounds of recycled paper collected at two elementary schools.

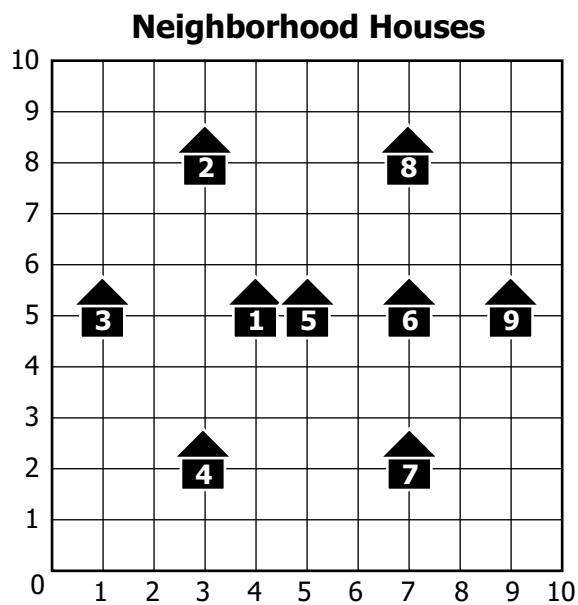
**Paper Collected**

<b>School</b>	<b>Recycled Paper (pounds)</b>
Stoneview	421
Wheaton	619

**What was the total weight of recycled paper collected at these two schools?**

- F** 421 pounds
- G** 619 pounds
- H** 1,030 pounds
- J** 1,040 pounds

25 The diagram shows 9 houses in a neighborhood.



Which 3 houses can be connected by one line segment?

- A 7, 6, 9
- B 7, 6, 8
- C 1, 5, 7
- D 1, 2, 3

**26 Mr. Franklin bought a bottle of cooking oil like the one shown in the picture.**

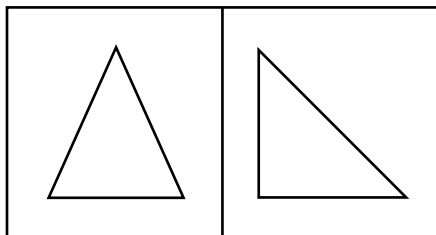


**Which is CLOSEST to the amount of cooking oil Mr. Franklin bought?**

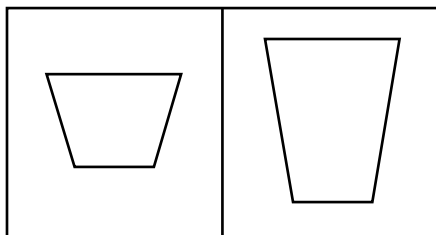
- F** 1 cup
- G** 50 cups
- H** 1 gallon
- J** 10 gallons

27 Mara chose a card that showed 2 congruent shapes. Which of the following could be the card she chose?

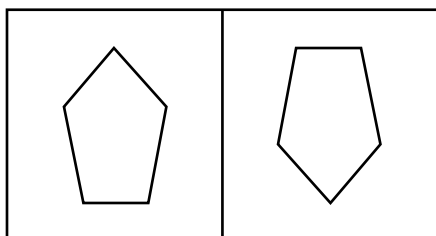
A



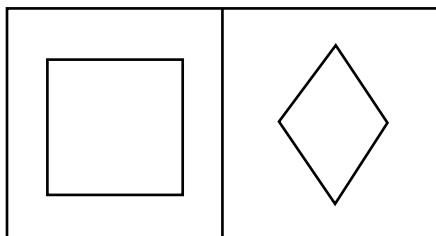
B



C

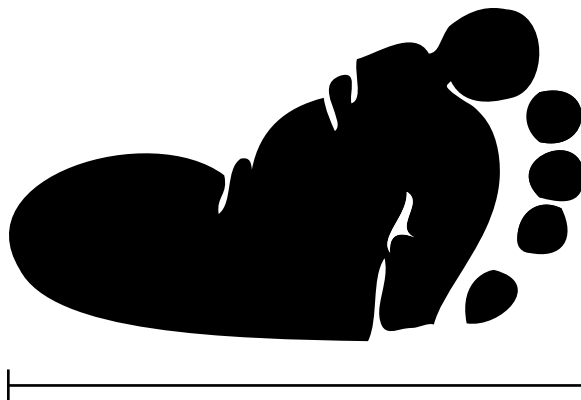


D



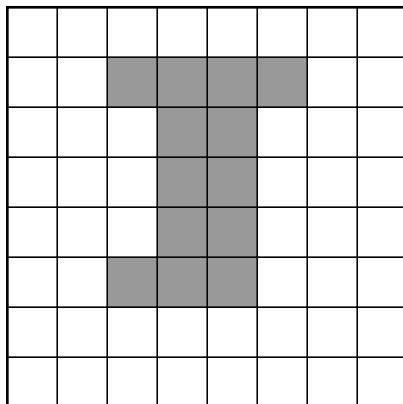


**28** About how many inches long is this newborn baby's foot?



- F** 3 inches
- G** 4 inches
- H** 5 inches
- J** 8 inches

**29 Jackson colored small squares on grid paper to make this design.**



**If  $\square$  is equal to 1 square unit, what is the area of Jackson's design?**

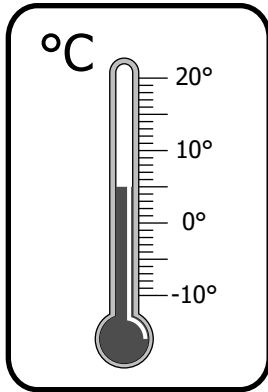
- A** 13 square units
- B** 14 square units
- C** 16 square units
- D** 20 square units

**30 Which means twenty-eight cents?**

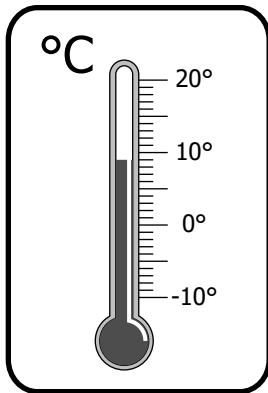
- F** \$28.00
- G** \$2.80
- H** \$2.08
- J** \$0.28

31 Which thermometer shows a temperature closest to 9°C ?

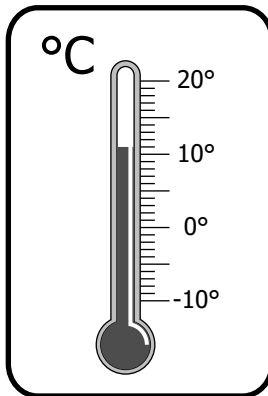
A



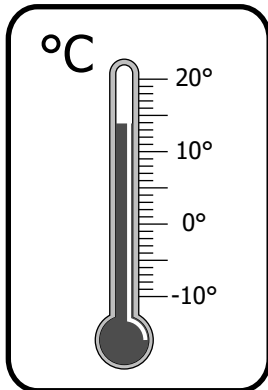
B



C



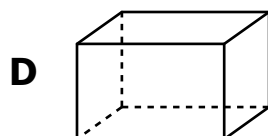
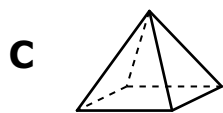
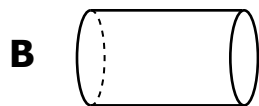
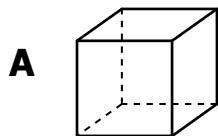
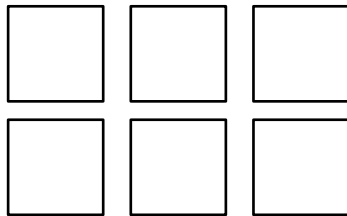
D



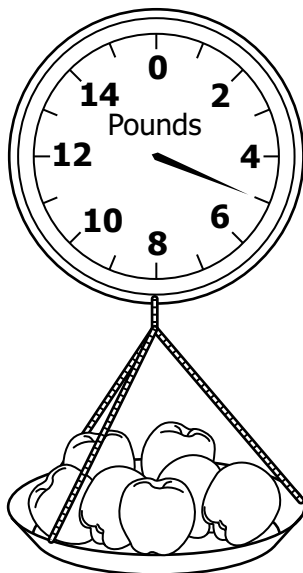
**32 Mr. Garrett lived in Fredericksburg for exactly 1 year. Which is closest to the total number of days Mr. Garrett lived in Fredericksburg?**

- F** 7
- G** 12
- H** 30
- J** 365

**33 Which solid figure could be formed by the faces shown below?**



**34** This scale shows the weight, in pounds, of some apples.



**According to the scale, which is closest to the total weight of these apples?**

- F** 4 pounds
- G** 5 pounds
- H** 6 pounds
- J** 7 pounds

**35 This watch shows the time Liam's school bus arrived.**

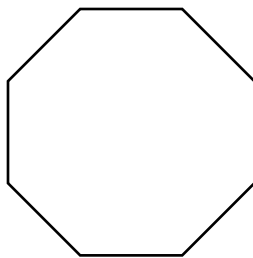


**Which is closest to the time Liam's school bus arrived?**

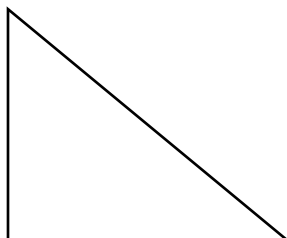
- A** 8:04
- B** 8:10
- C** 8:20
- D** 8:40

**36 Which shape appears to have 4 square corners?**

**F**



**G**



**H**








**J**



- 37 This graph shows the number of boxes of popcorn sold at a theater during a 4-day period.

**Boxes of Popcorn**

Day of the Week	Number Sold
Thursday	
Friday	
Saturday	
Sunday	

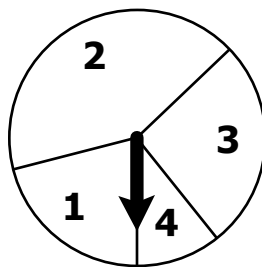
**Key:**  = 5 boxes

**Based on the data in the graph, what was the total number of boxes of popcorn sold on Friday and Saturday?**

- A** 50
- B** 45
- C** 40
- D** 35

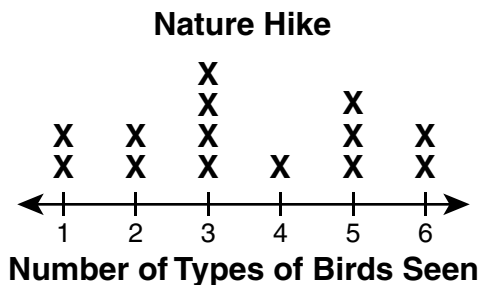


38 Which section of the spinner is the arrow MOST likely to land on for the next spin?



- F 1
- G 2
- H 3
- J 4

39 A group of third-grade students went on a nature hike. This line plot shows the number of types of birds seen during the hike.






Each X represents 1 student.

How many students saw EXACTLY 5 types of birds?

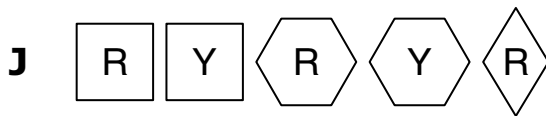
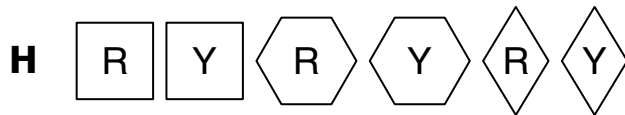
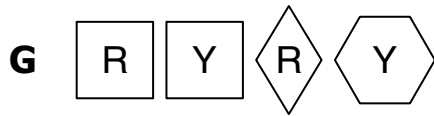
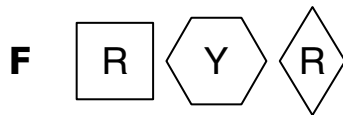
- A 13
- B 6
- C 5
- D 3

**40** The chart shows the shapes and colors of Sandra's tiles.

**Sandra's Tiles**

Shape	Color
	Red (R)  Yellow (Y)
	
	

**Which of the following shows ALL the different combinations of 1 shape and 1 color of tile that Sandra can make?**

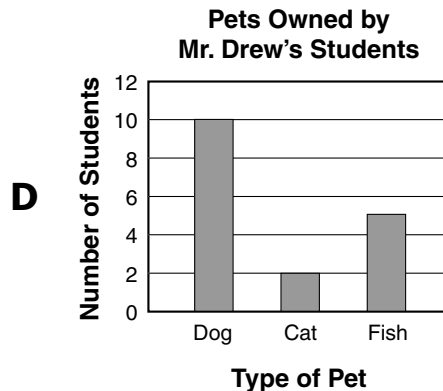
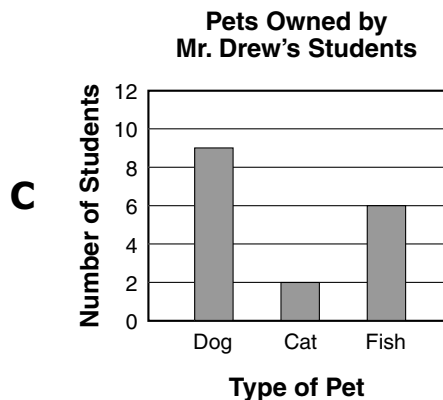
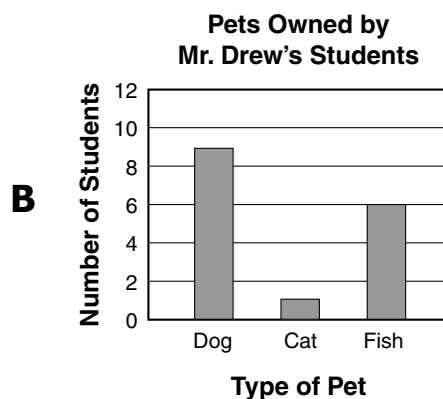
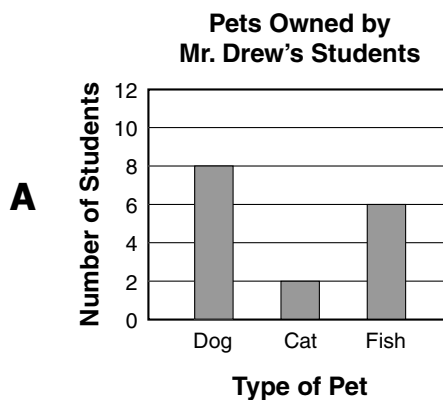


- 41 Each student in Mr. Drew's class owns one pet. This table shows the number of students who own different pets.

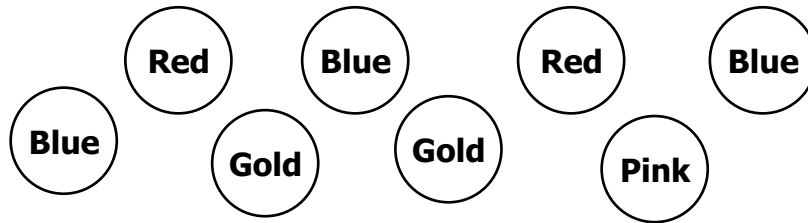
Pets Owned by Mr. Drew's Students

Type of Pet	Number of Students
Dog	9
Cat	2
Fish	6

Which bar graph correctly represents these data?




**42 Emily placed eight counters, like the ones shown, in a bag.**



**She selected one counter from the bag without looking. Which color counter is she LEAST likely to select?**

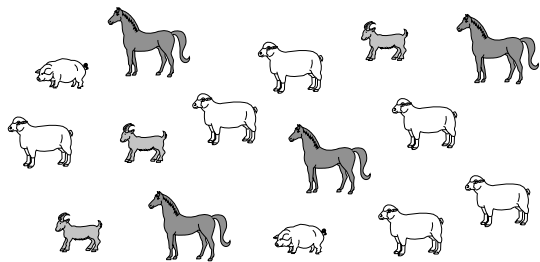
**F** 

**G** 

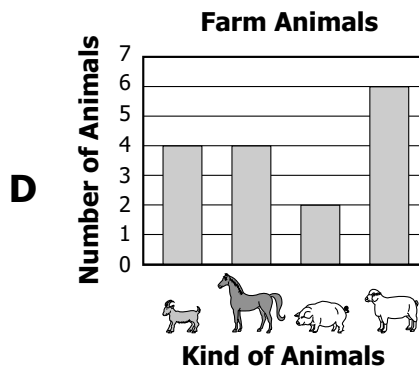
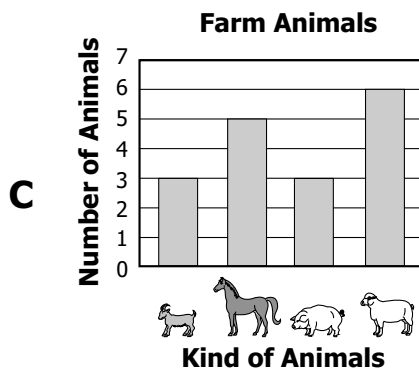
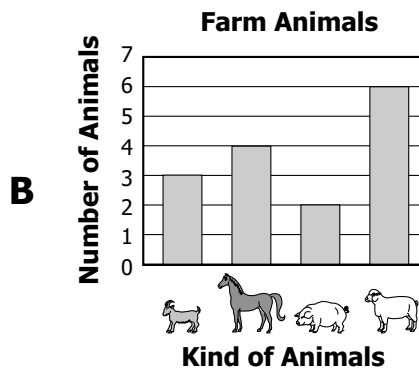
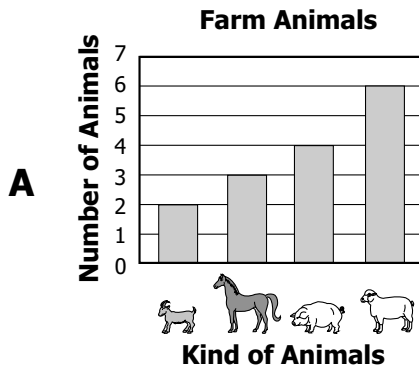
**H** 

**J** 

43 These pictures represent the 15 animals on Aunt Bev's farm.



Which bar graph best represents the numbers of each kind of animal on the farm?



**44 Harper wrote this number pattern.**

**143, 139, 135, 131, 127, \_\_, \_\_, \_\_**

**If the pattern continues to decrease following the same rule, what will be the next 3 numbers in Harper's pattern?**

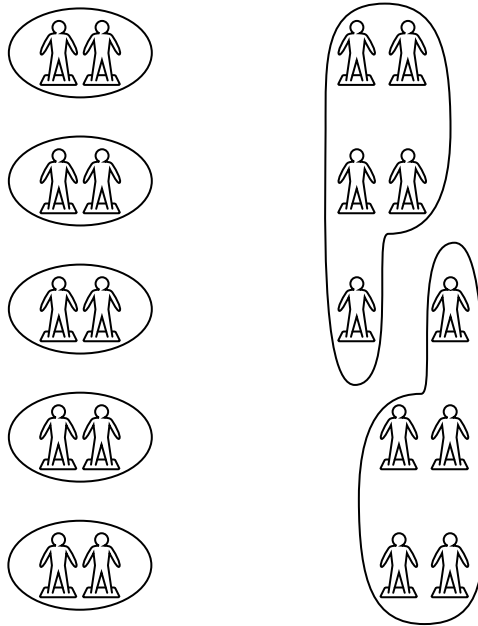
**F** 123, 119, 115

**G** 123, 118, 112

**H** 122, 117, 112

**J** 121, 115, 109

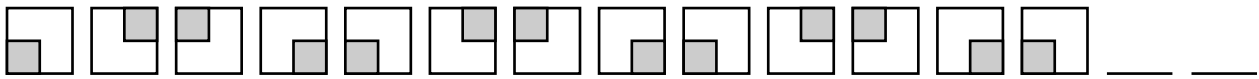
**45 Felicia grouped 10 counters 2 different ways to represent a basic fact.**



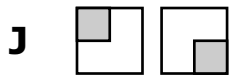
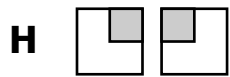
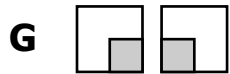
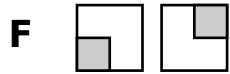
**Which number sentence represents these related facts?**

- A**  $5 \times 2 = 2 \times 5$
- B**  $5 \times 2 = 5 \times 5$
- C**  $2 + 5 = 5 \times 2$
- D**  $2 + 5 = 5 + 2$

46 Look at this repeating pattern of four figures.



The pattern will continue in the same way. What will be the next two figures in the pattern?





**47** Look at this table. Each toolbox has the same price.

**Toolboxes**

<b>Number of Toolboxes</b>	1	2	3	4	5	6
<b>Total Price</b>	\$30	\$60	\$90	\$120	\$150	

**If the pattern continues, what will be the total price of 6 toolboxes?**

- A** \$151
- B** \$180
- C** \$190
- D** \$210

**48** This number sentence models a multiplication property.

$$2 \times 3 = 3 \times 2$$

**Which of the following number sentences models the same property?**

- F**  $5 \times 8 = 8 \times 5$
- G**  $5 \times 8 = 40$
- H**  $5 \times 8 = 2 \times 20$
- J**  $5 \times 8 = 10 \times 4$

**49** Look at this pattern of numbers.

**3, 7, 11, 15, 19, —**

**If this pattern continues following the same rule, what should be the next number?**

- A** 20
- B** 22
- C** 23
- D** 24

**50** What number goes in the empty box to make the number sentence below true?

$$13 - \square = 7$$

- F** 4
- G** 6
- H** 14
- J** 20



### Answer Key-3070 M0110

Test Sequence Number	Correct Answer	Reporting Category	Reporting Category Description
1	C	001	Number and Number Sense
2	F	001	Number and Number Sense
3	C	001	Number and Number Sense
4	H	001	Number and Number Sense
5	A	001	Number and Number Sense
6	H	001	Number and Number Sense
7	C	001	Number and Number Sense
8	F	001	Number and Number Sense
9	B	001	Number and Number Sense
10	J	001	Number and Number Sense
11	A	001	Number and Number Sense
12	J	001	Number and Number Sense
13	C	001	Number and Number Sense
14	H	002	Computation and Estimation
15	A	002	Computation and Estimation
16	G	002	Computation and Estimation
17	D	002	Computation and Estimation
18	J	002	Computation and Estimation
19	C	002	Computation and Estimation
20	F	002	Computation and Estimation
21	C	002	Computation and Estimation
22	J	002	Computation and Estimation
23	B	002	Computation and Estimation
24	J	002	Computation and Estimation
25	B	003	Measurement and Geometry
26	H	003	Measurement and Geometry
27	C	003	Measurement and Geometry
28	F	003	Measurement and Geometry
29	A	003	Measurement and Geometry
30	J	003	Measurement and Geometry
31	B	003	Measurement and Geometry
32	J	003	Measurement and Geometry
33	A	003	Measurement and Geometry
34	G	003	Measurement and Geometry
35	C	003	Measurement and Geometry
36	J	003	Measurement and Geometry
37	A	004	Probability and Statistics
38	G	004	Probability and Statistics
39	D	004	Probability and Statistics
40	H	004	Probability and Statistics
41	C	004	Probability and Statistics
42	J	004	Probability and Statistics
43	B	004	Probability and Statistics
44	F	005	Patterns, Functions, and Algebra
45	A	005	Patterns, Functions, and Algebra
46	H	005	Patterns, Functions, and Algebra
47	B	005	Patterns, Functions, and Algebra
48	F	005	Patterns, Functions, and Algebra
49	C	005	Patterns, Functions, and Algebra
50	G	005	Patterns, Functions, and Algebra

### Grade 3 Math, Core 1

If you get this many items correct:	Then your converted scale score is:
0	000
1	082
2	127
3	154
4	174
5	190
6	203
7	215
8	225
9	235
10	244
11	252
12	259
13	266
14	273
15	280
16	286
17	293
18	299
19	304
20	310
21	316
22	321
23	327
24	333
25	338
26	344
27	349
28	355
29	360
30	366
31	372
32	378
33	384
34	390
35	396
<b>36</b>	<b>403</b>
37	410
38	417
39	424
40	432
41	441
42	450
43	461
44	472
45	486
<b>46</b>	<b>502</b>
47	521
48	549
49	594
50	600

A total raw score (left column) is converted to a total scaled score (right column). The total scaled score may range from 0 to 600.

A scaled score of 400 or more means the student passed the SOL test, while a scaled score of 399 or less means the student did not pass the test. A scaled score of 500 or more indicates the student passed the SOL test at an advanced level.