VIRGINIA STANDARDS OF LEARNING

Spring 2010 Released Test

GRADE 4 MATHEMATICS

Form M0110, CORE 1

Property of the Virginia Department of Education

Directions

Read each question and choose the best answer.

SAMPLE

Which number has a 9 in the ones place?

A 9,555
B 5,955
C 5,595
D 5,559

1 **The difference between 76,423 and 29,876 is** *best* **described as closest to —**

    A   60,000

    B   50,000

    C   40,000

    D   30,000

2   **53 × 18 is** *closest* **to —**

    F   100

    G   600

    H   1,000

    J   1,800

3 What is the sum of the fractions shown by the shaded parts of the models?
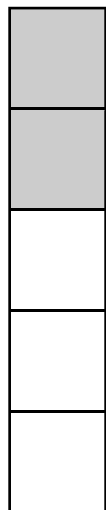
Model 1
$$\frac{2}{5}$$

Model 2
$$\frac{3}{10}$$

A $\dfrac{5}{15}$

B $\dfrac{5}{10}$

C $\dfrac{7}{10}$

D $\dfrac{10}{15}$

4 $4.2 - 2.86 = \underline{\quad ? \quad}$

    F   1.34

    G   2.66
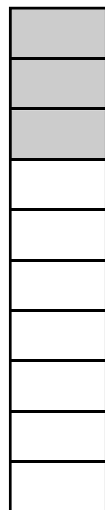
    H   3.28

    J   7.06

5 **The difference $743 - 239$ is *best* described as a little more than —**

    A   200

    B   300

    C   400

    D   500

6 $6\overline{)138}$

    F   21

    G   23

    H   24

    J   28

7 $3.76 + 2.99 = \underline{\ ?\ }$

    A   5.65

    B   5.75

    C   6.65

    D   6.75

8 Which is *closest* to $82 \div 7$?

    F   10

    G   20

    H   30

    J   40

9 What is the difference between $\dfrac{6}{7}$ and $\dfrac{2}{7}$?

    A $\dfrac{4}{0}$

    B $\dfrac{4}{14}$

    C $\dfrac{4}{7}$

    D $\dfrac{8}{7}$

10 Ms. Kraft bought 4 bags of rocks for her garden. Each bag contained 107 rocks. What is the total number of rocks she bought?

$$107 \times 4 = \underline{\,?\,}$$

    F   408

    G   424

    H   428

    J   468

11 Kim and José shared one whole pizza. Kim ate $\dfrac{4}{6}$ of the pizza, and José ate $\dfrac{3}{12}$ of the pizza. How much of the pizza was eaten?

    A $\dfrac{1}{12}$

    B $\dfrac{5}{12}$

    C $\dfrac{7}{12}$

    D $\dfrac{11}{12}$

12   71,965
        −42,749
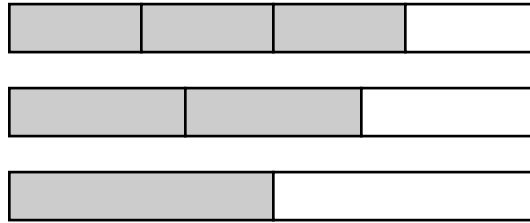
  F   29,216
  G   31,224
  H   39,124
  J   39,226

**Do not turn
the page until
you are told.**

STOP

13 **The fraction bars each show one whole divided into fractional parts.**

Which is true?

A $\dfrac{1}{2} > \dfrac{2}{3}$

B $\dfrac{3}{4} = \dfrac{1}{2}$

C $\dfrac{2}{3} = \dfrac{3}{4}$

D $\dfrac{3}{4} > \dfrac{1}{2}$

14 **How is 75,054 written in words?**

F Seventy-five, fifty-four

G Seventy-five hundred, fifty-four

H Seventy-five thousand, fifty-four

J Seventy-five thousand, five hundred four

15 **Which statement is true?**

    A $6,785 = 6,857$

    B $4,958 < 9,350$

    C $9,350 < 4,958$

    D $5,092 > 5,902$

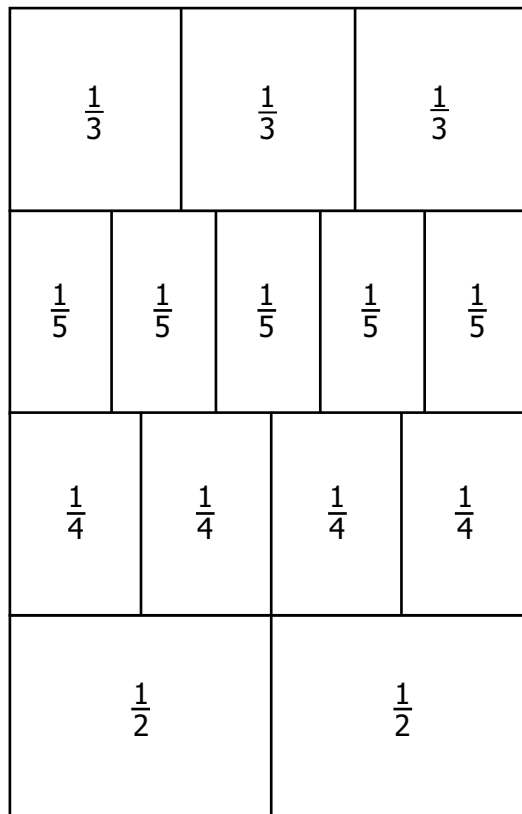**16** **What is 265,200 rounded to the nearest hundred thousand?**

    F   200,000

    G   265,000

    H   270,000

    J   300,000

17 **There are 4 fraction strips shown.**

$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$

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

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

$\frac{1}{2}$	$\frac{1}{2}$

Which fraction has the least value?

A $\frac{1}{3}$

B $\frac{1}{5}$

C $\frac{1}{4}$

D $\frac{1}{2}$

18 **Which of the following numbers will round to 26 ?**

    F   25.3

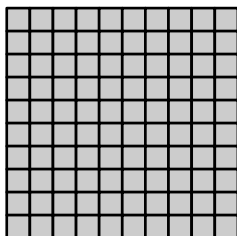   **G** 25.5

    H 26.7

    J   27.1

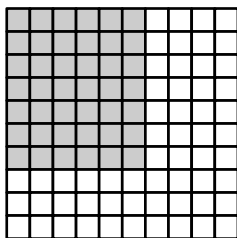**19** **This model is shaded to represent the number 1.**

The model shown is shaded to represent part of 1.

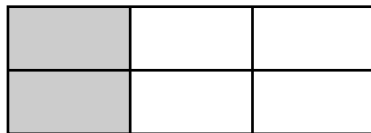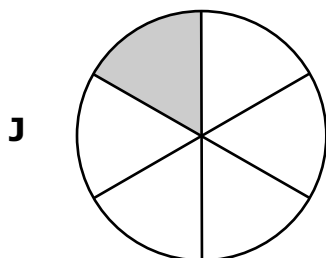**Which decimal *best* represents the shaded part of this model?**
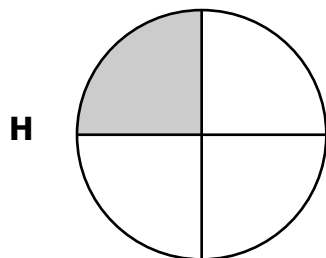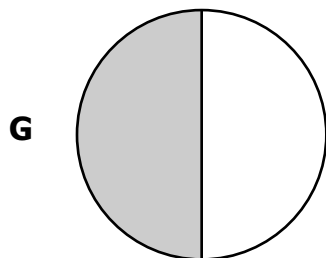
    A 0.42

    B 0.042

    C 4.2

    D 42

20 This model represents $\frac{2}{6}$.

Which model represents a fraction that is equivalent to $\frac{2}{6}$?

F

G

H

J
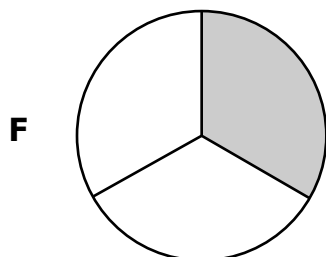
21 **Which pair of figures appears to be congruent?**

A

B

C

D
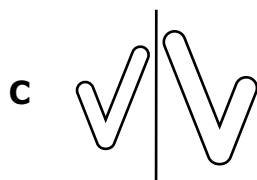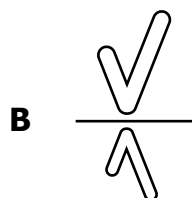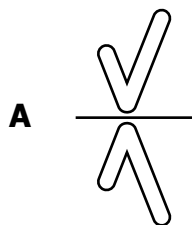
22 **A puppy weighs 2 pounds. What is the puppy's weight in ounces?**

F   32 ounces

G   20 ounces

H   16 ounces

J   8 ounces

23 **The drawing shows lines *a*, *b*, *j*, and *k*.**

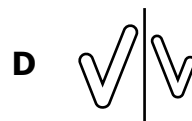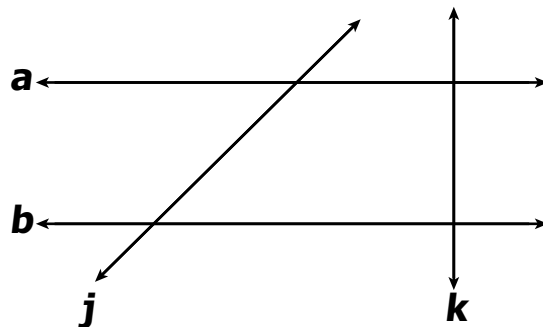**Which of the following pairs of lines appear to be perpendicular?**

A Lines *a* and *j*

B Lines *b* and *j*

C Lines *a* and *k*

D Lines *a* and *b*

24 **A paper clip is 2.5 centimeters long. Which is closest to the length, in inches, of the paper clip?**

F 1

G 2

H 5

J 12

25 **Which measurement is *closest* to the volume of liquid in this beaker?**
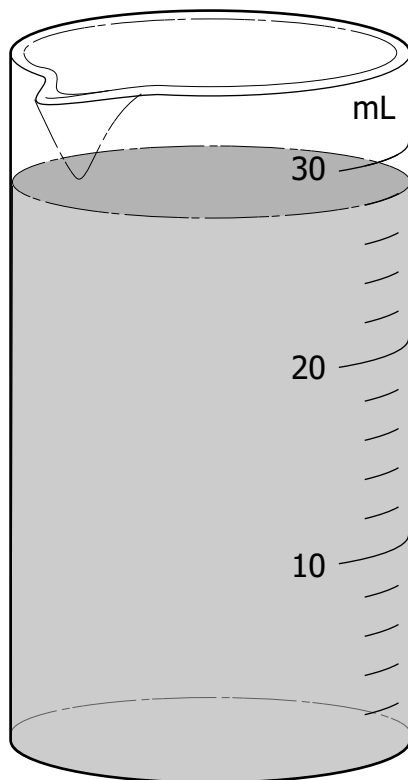
A   10 milliliters

B   20 milliliters

C   30 milliliters

D   40 milliliters

26 **Which is true of a square?**

F   It has no sides of equal length.

G   It has 4 curved sides.

H   It has only 1 pair of parallel sides.

J   It has 4 right angles.

27 **Use your centimeter (cm) ruler to answer this question.**
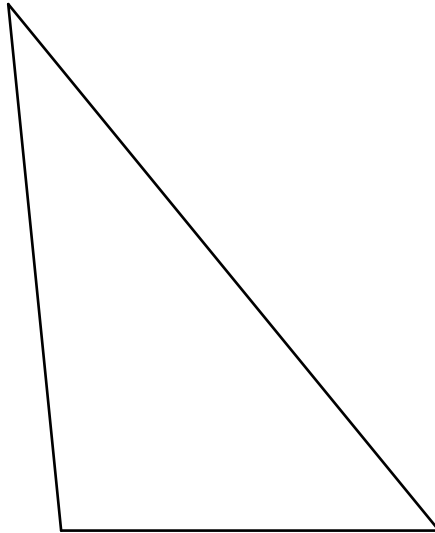
Which is closest to the perimeter of the figure shown?

A 21 cm

B 18 cm

C 12 cm

D 9 cm
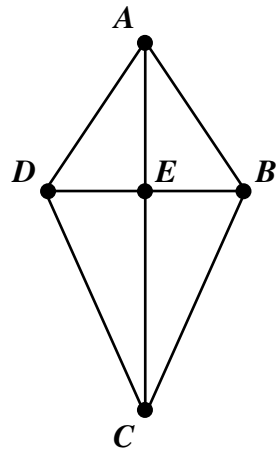
What is the maximum number of line segments shown in this drawing?

F   4

G   5

H   10

J   11

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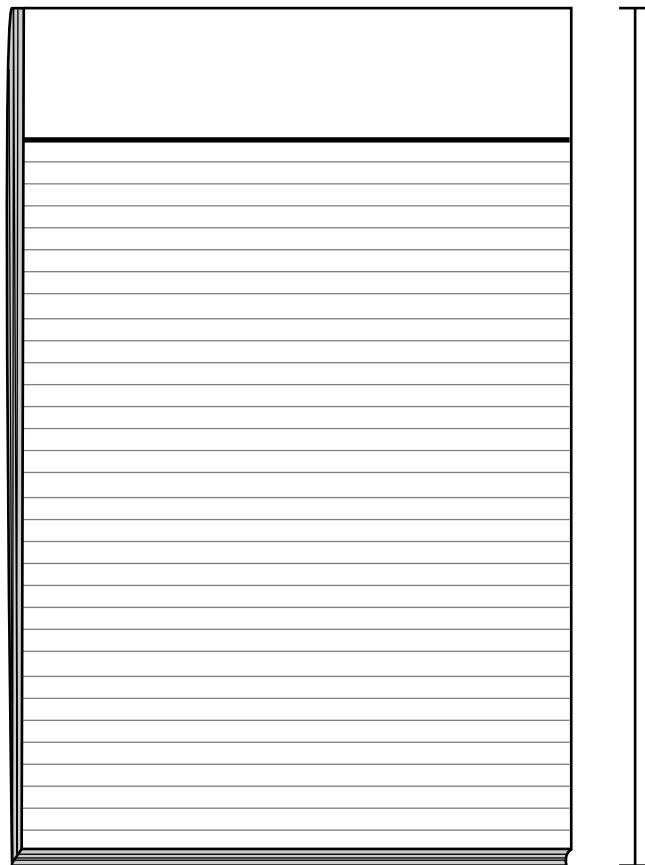
Which is closest to the length of this notepad?

A   4 inches

B $4\frac{1}{2}$ inches

C   5 inches

D $5\frac{1}{2}$ inches

1   **2**   **3**   **4**
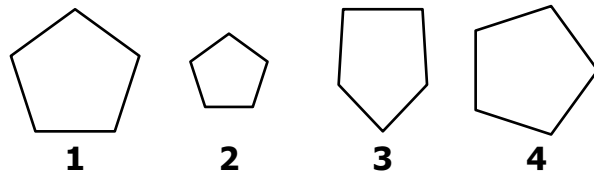
Which two shapes appear to be congruent?

F   1 and 2

G   2 and 3

H   3 and 4

J   4 and 1

31   **Kenny measured the mass of a candle on a balance scale.**
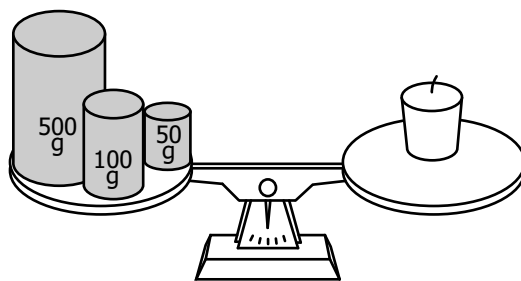
Which appears to be the mass of the candle pictured?

A   500 g

B   550 g

C   600 g

D   650 g

GO ON

32 **Which ordered pair would have to represent point D in order to complete rectangle $ABCD$?**
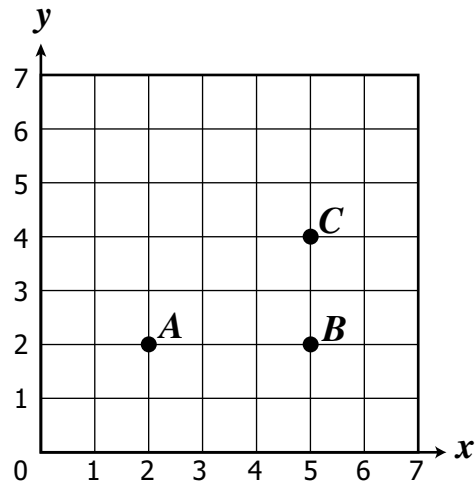
F $(2, 4)$

G $(2, 5)$

H $(4, 2)$

J $(5, 2)$

33 Gary filled his 10,000-gallon swimming pool with water from a garden hose. He started filling the pool at 10:00 A.M.

Water in Swimming Pool
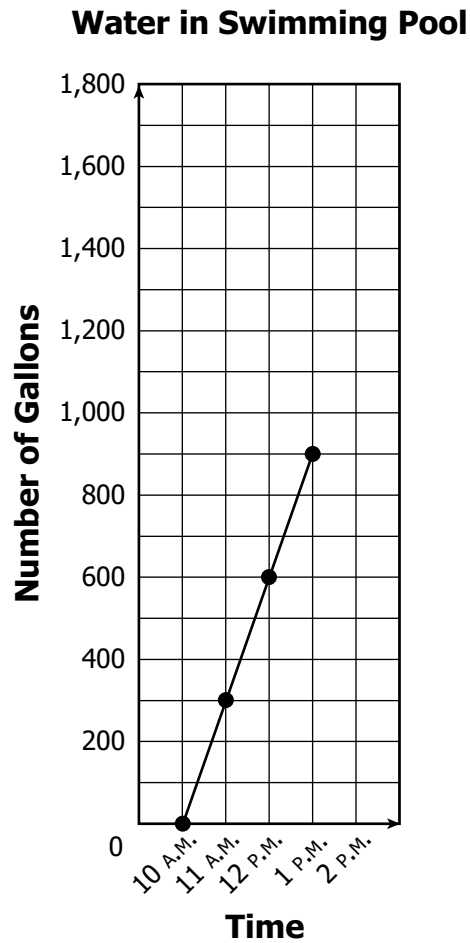
Gary continues to add water to the pool at this same rate. Which is closest to the number of gallons of water that will be in the pool at 2:00 P.M. on the same day?

A   300 gallons

B   1,200 gallons

C   1,500 gallons

D   1,600 gallons

34   A pouch contains 5 blue marbles, 2 red marbles, 1 green marble, and 4 pink marbles.
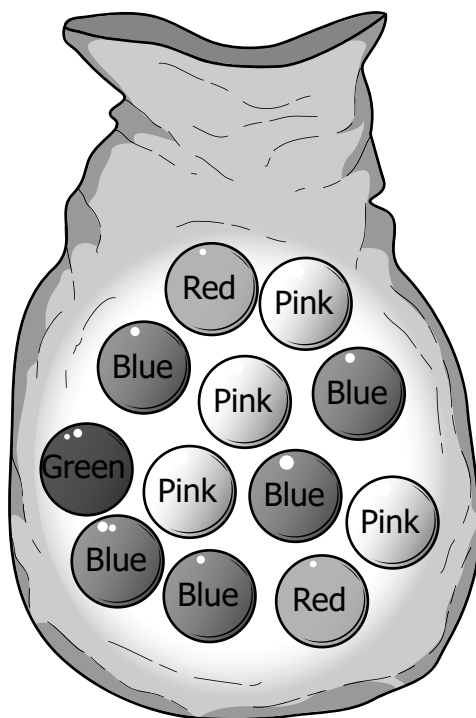
What is the probability that Jorge will select, without looking, a red marble on the first try?

F $\dfrac{10}{12}$

G $\dfrac{1}{2}$

H $\dfrac{2}{10}$

J $\dfrac{2}{12}$

35 **This bar graph shows the number of letters written by students in four third-grade classrooms.**

Letters Written
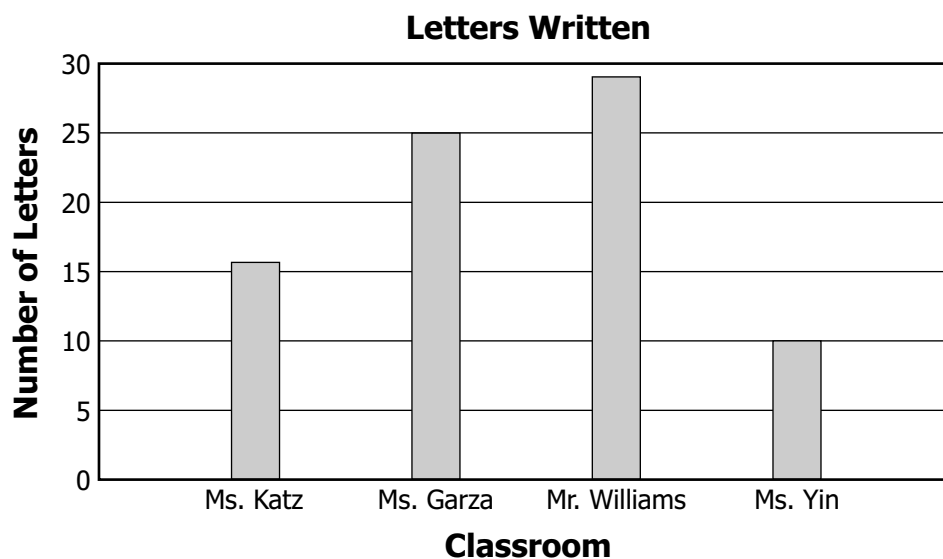
Which question *cannot* be answered using the information in this bar graph?

A Which two classrooms combined wrote 35 letters?

B Which classroom wrote the least number of letters?

C Which classroom wrote the greatest number of letters?

D Which month did Mr. Williams' class write the most letters?

36 The table shows the number of cans of different-colored paint in Mr. Eggan's garage. Each can is the same size.

Mr. Eggan's Paint Cans

Color	Number
Peach	3
White	4

Mr. Eggan chooses one paint can without looking. What is the probability the first can chosen will be a can of white paint?

F $\dfrac{3}{7}$

G $\dfrac{4}{7}$

H $\dfrac{3}{4}$

J $\dfrac{4}{3}$

37 **Margaret bought a box of 12 doughnuts. It is impossible for the doughnut picked from the box to be glazed. Which of the following is the number of glazed doughnuts in the box?**

    A   0

    B   1

    C   2

    D   3

38 **This table shows the number of people in Lou's Restaurant at different times during the same day.**

People in Lou's Restaurant

Time	12:00	3:00	6:00	9:00
Number of People	35	10	50	45

Which line graph correctly shows this information?

People in Lou's Restaurant

F

People in Lou's Restaurant

G

People in Lou's Restaurant

H

People in Lou's Restaurant

J

GO ON
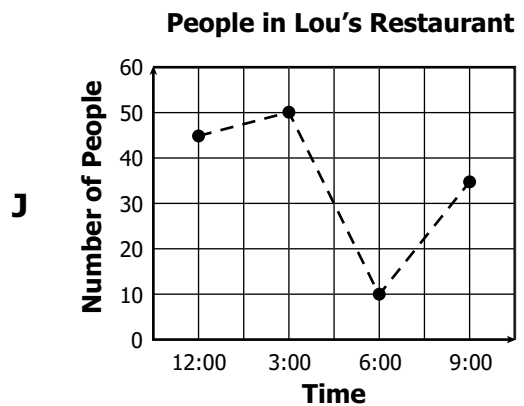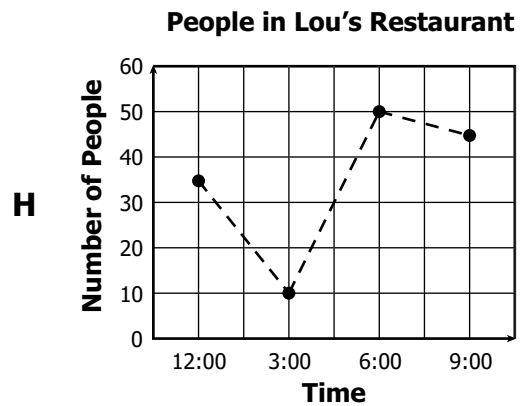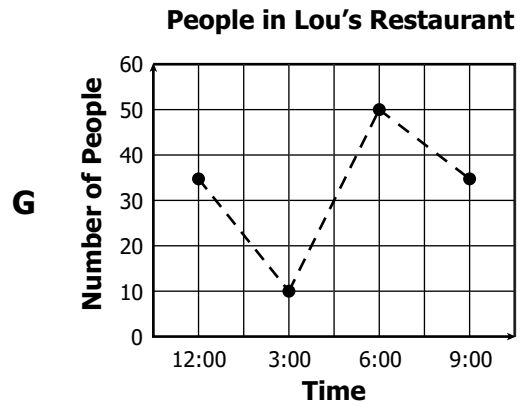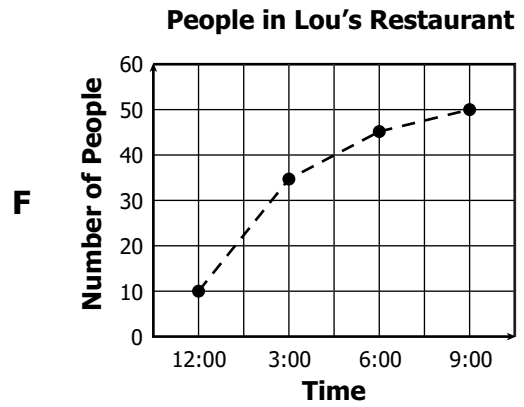
39 A box contains 45 bags of cheese popcorn and 5 bags of caramel popcorn. Which of the following *best* describes the chances that the first bag of popcorn taken from the box will be caramel popcorn?

A Impossible

B Unlikely, but not impossible

C Likely, but not certain

D Certain

40 Taylor put the following fruit stickers of the same size and shape in a bag:

- **2 apple stickers**
- **3 orange stickers**
- **1 pear sticker**
- **2 plum stickers**

Taylor will pick one fruit sticker from the bag without looking. What is the probability the sticker will be a pear sticker?

F $\dfrac{1}{8}$

G $\dfrac{1}{7}$

H $\dfrac{1}{4}$

J $\dfrac{1}{3}$

GO ON

41 **Which number correctly completes this number sentence?**

$$45 + (14 + 17) = (14 + 45) + \square$$

    A   59

    B   45

    C   17

    D   14

42 **When four members of a basketball team stand in a certain order as shown, the numbers on their uniforms make a pattern.**
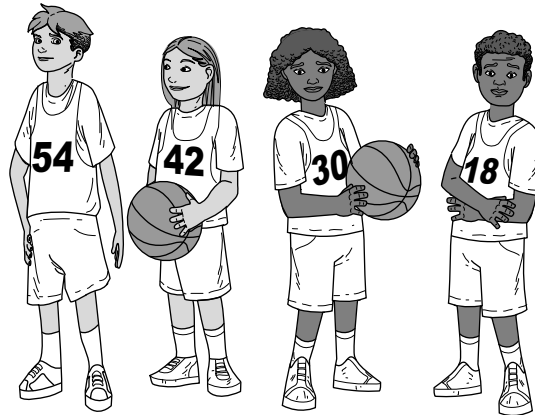
Which rule describes this pattern?

    F   Add 8

    G   Multiply by 9

    H   Divide by 6

    J   Subtract 12

43 **Which number sentence is true?**

A $21 - (7 + 6) = 7 + (21 + 6)$

B $33 + (18 + 2) = 18 + (33 + 2)$

C $15 + (19 + 24) = 19 + (24 - 15)$

D $29 + (16 - 3) = 16 + (29 + 3)$

44 **This table shows the number of minutes Lee practiced tennis during 4 weeks.**

Tennis Practice

Week	Minutes
1	75
2	120
3	165
4	210

If the pattern shown in the table continues in the same way, how many minutes will Lee practice during the 6th week?

F   365

G   345

H   300

J   255

45 Which number sentence is *not* true?

   A $(6+5)+3 = 6+(5+3)$

   B $(5\times2)\times1 = 5\times(2\times4)$

   C $(5+5)+2 = 5+(5+2)$

   D $8\times(2\times3) = (8\times2)\times3$

46 The numbers on these mailboxes form a pattern.
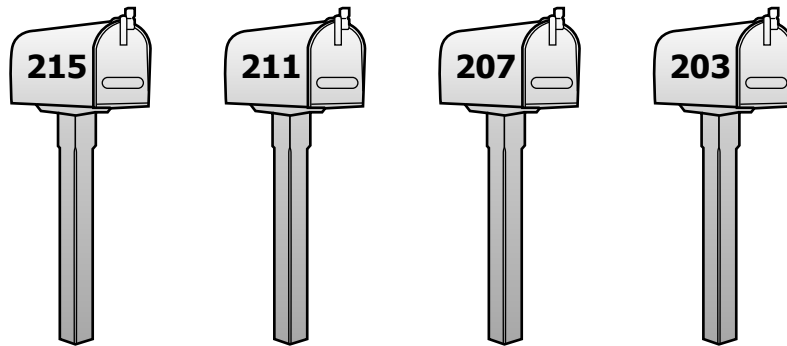
This pattern continues in the same way. Which number will be on the next mailbox?

   F 202
   G 200
   H 199
   J 197

47 **Harry saw these columns being built for a highway overpass. Each of the columns has 2 more blocks than the column before it.**

1st 2nd 3rd 4th
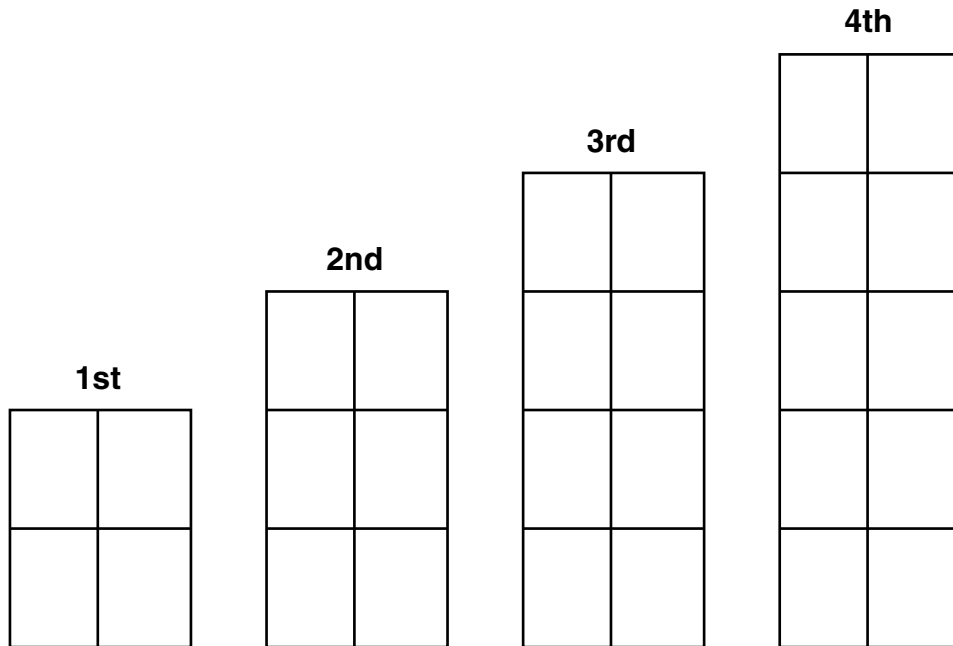
If this pattern continues, how many blocks should the 5th column have?

A 8
B 10
C 12
D 14

48 **Which statement is true?**

F $2 \times 9 = 3 \times 8$
G $2 \times 9 = 4 \times 6$
H $3 \times 6 = 2 \times 12$
J $3 \times 8 = 4 \times 6$

49 Look at the pattern of numbers.

$$2,\ 10,\ 18,\ \_\_,\ 34,\ 42$$

What is the missing number in this pattern?

A 20
B 26
C 28
D 30

50 What number makes this number sentence true?

$$7 + (13 + 4) = (7 + \_\_) + 4$$

F 4
G 7
H 11
J 13

STOP

Answer Key-4071-M0110

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

Grade 4 Math, Core 1

If you get this many items correct:		Then your converted scale score is:
0		000
1		073
2		122
3		152
4		173
5		190
6		205
7		218
8		229
9		239
10		249
11		258
12		266
13		274
14		281
15		289
16		296
17		303
18		309
19		316
20		322
21		328
22		335
23		341
24		347
25		353
26		359
27		366
28		372
29		378
30		385
31		391
32		398
33		**405**
34		412
35		419
36		427
37		435
38		443
39		452
40		461
41		471
42		482
43		494
44		**508**
45		523
46		541
47		564
48		594
49		600
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.