VIRGINIA STANDARDS OF LEARNING

Spring 2007 Released Test

GRADE 4 MATHEMATICS

Form M0117, CORE 1

Property of the Virginia Department of Education

Directions

Read each question and choose the best answer. Then mark the space on your answer document for the answer you have chosen.

SAMPLE

Which number has a 9 in the ones place?

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

GO ON

1 **The table shows the number of marbles Juan has in each of three jars.**

Juan's Marbles

Jar	Number
A	121
B	37
C	180

Which is *closest* to the total number of marbles in the three jars?

A 240

B 340

C 440

D 540

2 $108 \div 6 =$

F 16

G 17

H 18

J 19

3 $741,409 - 23,611 =$

     A   717,798

     B   718,798

     C   722,898

     D   727,898

4   Mrs. Thomas bought $\dfrac{5}{6}$ yard of red fabric and $\dfrac{1}{2}$ yard of green fabric. How much more red fabric than green fabric did Mrs. Thomas buy?

     F $\dfrac{4}{4}$ yard

     G $\dfrac{6}{8}$ yard

     H $\dfrac{5}{12}$ yard

     J $\dfrac{2}{6}$ yard

5 **The number line below is marked with a heavy line segment.**

Which difference is between 50,000 and 55,000 as shown on this number line?

A $89,362 - 45,486$

B $89,362 - 35,486$

C $89,362 - 25,486$

D $89,362 - 15,486$

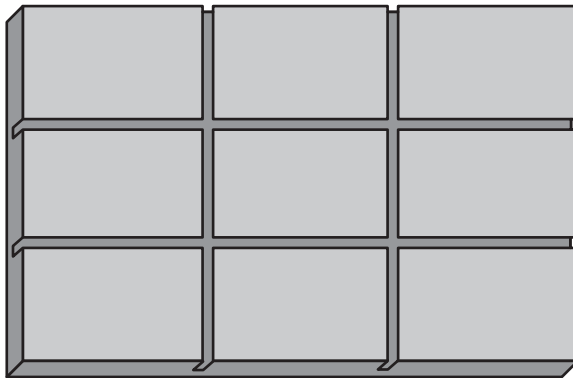**6** **Which product is between 1,000 and 1,500 as shown on the number line?**

F 20×25

G 38×32

H 50×38

J 59×36

GO ON

7 $45 \times 12 =$

  A 440
  B 530
  C 540
  D 550

8

Henry ate $\dfrac{3}{9}$ of the chocolate bar pictured. What fraction of the chocolate bar is left?

  F $\dfrac{6}{6}$

  G $\dfrac{6}{9}$

  H $\dfrac{3}{6}$

  J $\dfrac{3}{9}$

9
       267,412
     − 81,523

- **A** 348,935
- **B** 226,111
- **C** 216,479
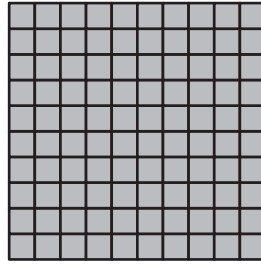- **D** 185,889

10 $0.62 + 0.69 =$

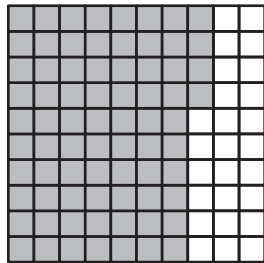- **F** 0.121
- **G** 0.131
- **H** 1.21
- **J** 1.31

11 **Alyssa watched 3.5 hours of television last week. This week, she watched 4.7 hours of television. How many more hours did Alyssa watch television this week than last week?**

    A   0.2

    B   0.8

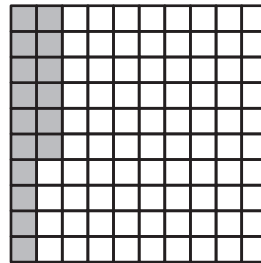   **C**   1.2

    D   8.2

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

Each of the following models is shaded to represent a decimal number.

Model 1   Model 2

If the two decimals are added, what is the sum?

F   0.09

G   0.90
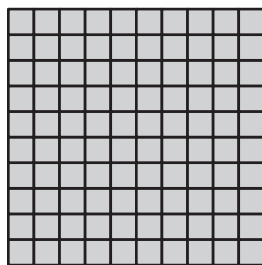
H   9.0

J   90.0

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

STOP
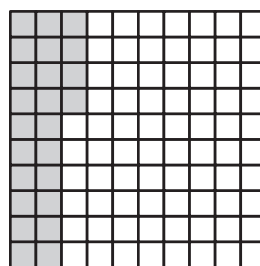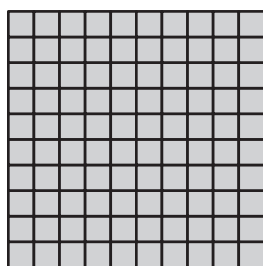
13 A city has a population of 7,380,916. What is 7,380,916 rounded to the nearest hundred thousand?

    A   7,000,000

    B   7,380,900

    C   7,400,000

    D   8,000,000

14 The model below represents one whole.

What number is represented by the following model?

    F   1.024

    G   1.24

    H   12.4

    J   124

15 A fractional part of this group of circles is shaded.
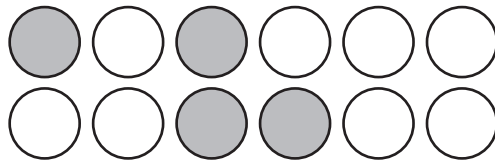
Which group of stars is shaded to represent a fraction with an equivalent value?

A

B

C

D

16 Which number has a 7 in the ten thousands place?

F 173,862

G 287,413

H 364,879

J 745,206

17 **The model below is shaded to represent one whole.**
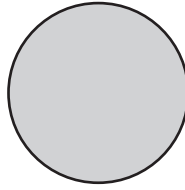
The following model is shaded to represent a fraction of a whole.
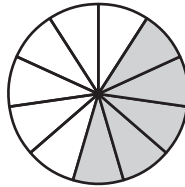
Which is shaded to represent a fraction *less than* the fraction modeled above?

A

B

C

D
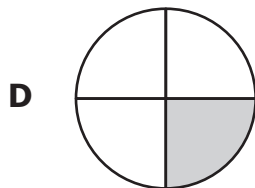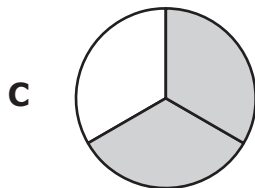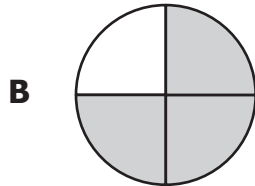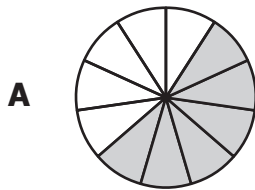
18 Exactly $\frac{3}{5}$ of the ribbons Homer won were for 1st place. Which of the following could be the group of ribbons Homer won?

F 1st 1st 1st 2nd 2nd

G 1st 1st 1st 2nd 2nd 2nd 2nd 2nd

H 1st 1st 1st 1st 2nd

J 1st 1st 2nd 2nd 2nd

19 **What is 13.73 rounded to the nearest tenth?**

    A   13.0

    B   13.7

    C   13.8

    D   14.0

20 **The model below is shaded to represent the number 1.**
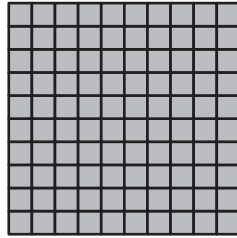
Which model represents the number that goes in the blank to make the statement below true?

$$0.23 < \underline{\quad}$$

F

G

H

J

21
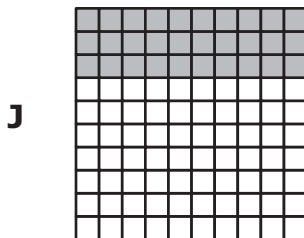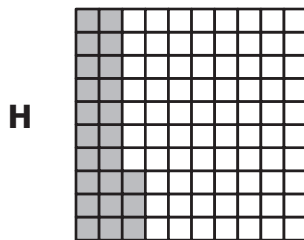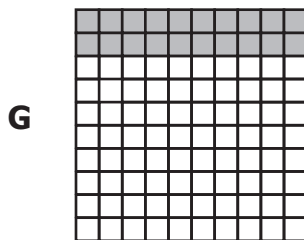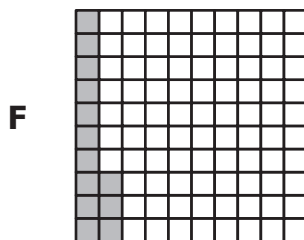
Which is *closest* to the length of the chain pictured above?

A $2\frac{5}{8}$ inches

B $3\frac{5}{8}$ inches

C $6\frac{1}{2}$ inches

D $7\frac{1}{2}$ inches

22 **A quart is almost a —**

F milliliter
G centiliter
H liter
J kiloliter

23 **The bicycle path at the city park is 1 mile long. Which of the following is *closest* to a distance of 1 mile?**

A 1.5 kilometers
B 1.5 meters
C 1.5 millimeters
D 1.5 centimeters

24 **Which appears to be a pair of congruent figures?**

F

G

H

J
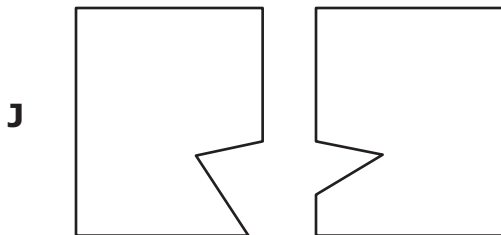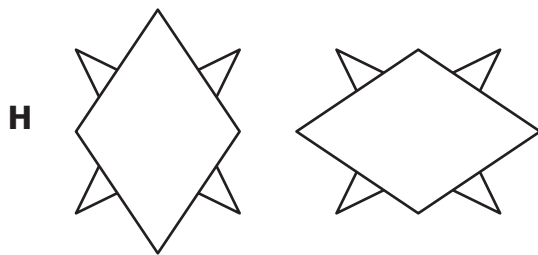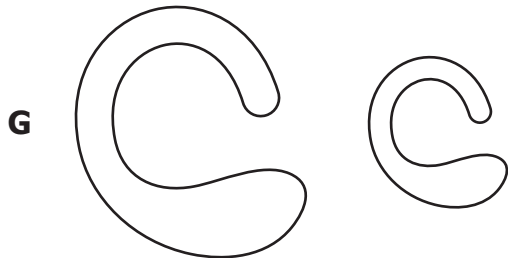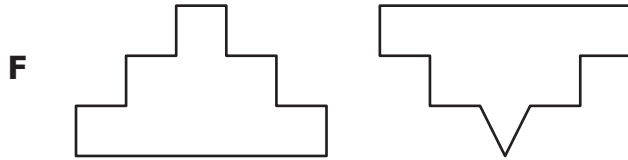
25 **Jackie plans to cover a tabletop with tiles. Which should Jackie know to make sure she buys enough tile?**

A   The height of the table

B   The perimeter of the tabletop

C   The weight of the table

D   The area of the tabletop

26
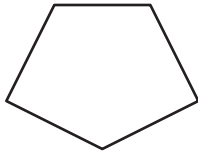
The sides of this polygon are *best* described as —

F rays

G points

H lines

J line segments

27 Anna bought 1 pound of butter. Which of the following is equivalent to 1 pound?

A 10 ounces

B 16 ounces

C 28 ounces

D 36 ounces

GO ON

28 **Which of the following is *not* pictured in the diagram?**
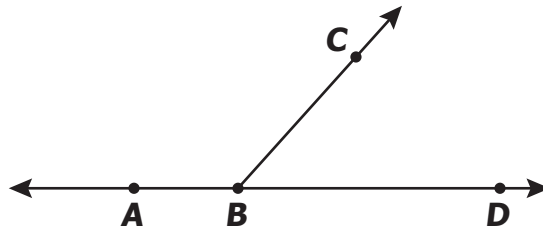
F   Ray *BD*

G   Line *AD*

H   Angle *B*

J   Line segment *CD*

29 **A scientist filled an eyedropper with vinegar. Which of the following amount would fit in an eyedropper?**

A   10 milliliters

B   10 liters

C   1 kiloliter

D   1 liter

30 **A square is both a —**

    F rectangle and a triangle.

    G parallelogram and a rhombus.

    H triangle and a quadrilateral.

    J polygon and a circle.

31
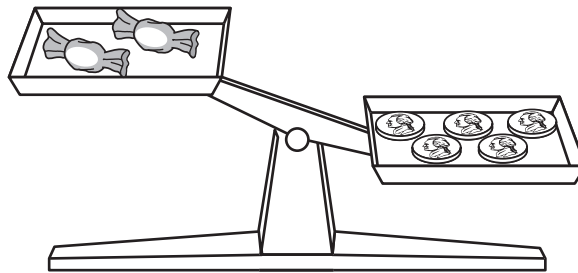
If the mass of the 5 nickels is 25 grams, which measurement is *closest* to the total mass of the 2 pieces of candy?

    A 35 grams

    B 30 grams

    C 25 grams

    D 20 grams

GO ON

32 **Line _m_ and four points are shown on the grid.**
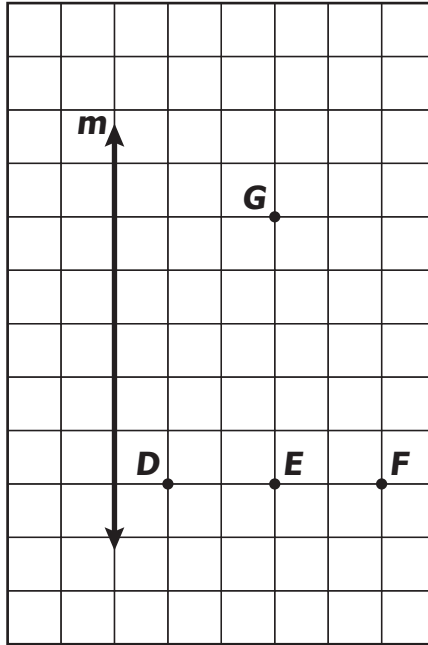
Which two points appear to lie on the same line that is parallel to line _m_?

F   _G_ and _D_

G   _D_ and _E_

H   _G_ and _E_

J   _F_ and _D_

33 **Elsa made the graph below to show the amount of money her family spent on food each week for one month.**
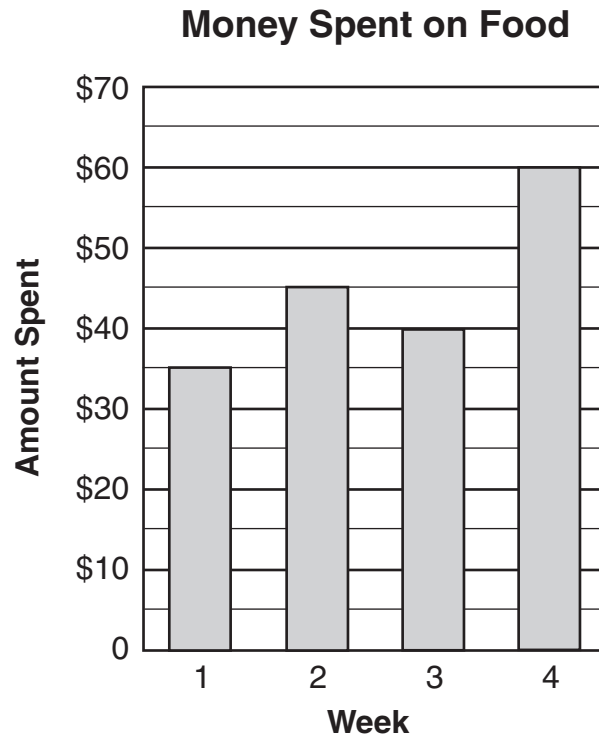
Money Spent on Food

Between which two weeks was the difference in the amount spent on food closest to $5?

A   Between week 1 and week 2

B   Between week 2 and week 3

C   Between week 1 and week 4

D   Between week 2 and week 4

34 Terrell put 25 marbles in a bag. It is certain that the first marble taken from the bag will be red. Which is the number of red marbles in the bag?

F 0

G 5

H 20

J 25

35 Jason rolls a cube that has a different one of the following shapes on each face.

What is the probability the cube will land on a face with a star on Jason's first roll?

A $\frac{1}{6}$

B $\frac{1}{5}$

C $\frac{5}{6}$

D $\frac{6}{1}$

36 Pat and her friends will use the following spinner in a game. Each section of the spinner is the same size.
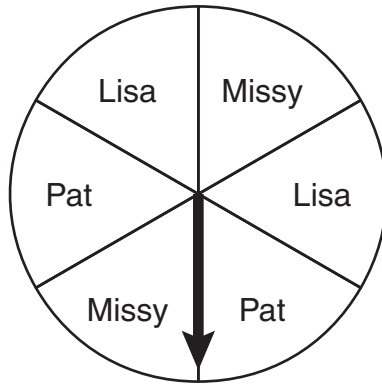
If Pat spins first, what is the probability the arrow will land on a section labeled Missy?

F $\dfrac{1}{6}$

G $\dfrac{2}{6}$

H $\dfrac{2}{4}$

J $\dfrac{4}{6}$

37 **Mr. Charles measured and recorded the amount of liquid in a tank each hour for 4 hours. The table shows the results.**

Level of Liquid in Tank

Time (a.m.)	Level in Feet
8:00	23
9:00	18
10:00	27
11:00	25

Which *best* represents a correct graph of the information from the table?

A

Level of Liquid in Tank

B

Level of Liquid in Tank

C

Level of Liquid in Tank

D

Level of Liquid in Tank

GO ON
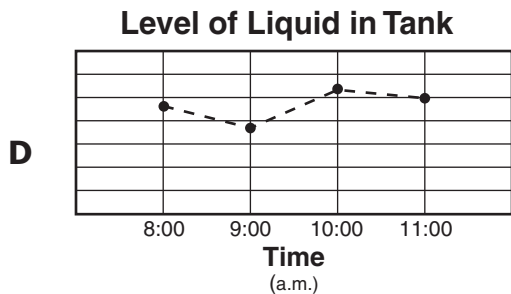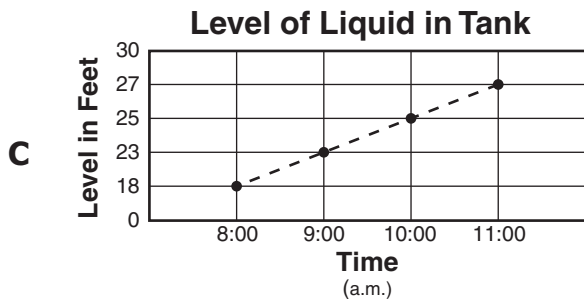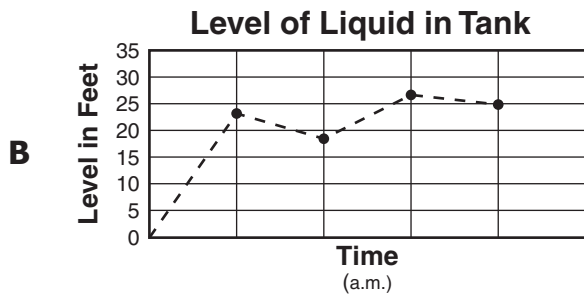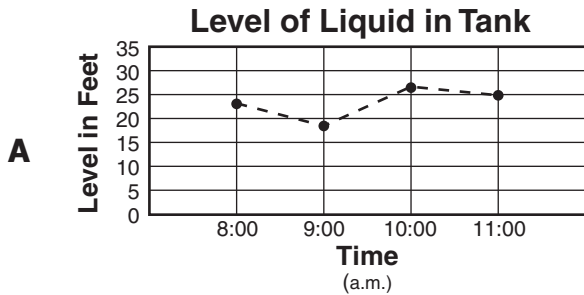
38 **The line graph shows how Joseph's height changed as he grew.**
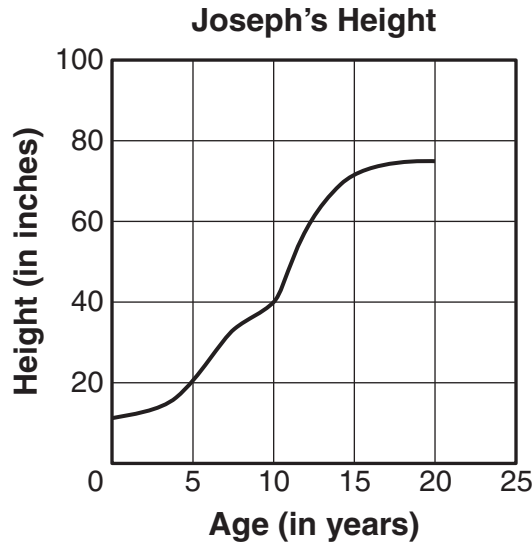
Joseph's Height

Which of the following is *closest* to Joseph's height when he was 15 years old?

F   80 in.

G   70 in.

H   65 in.

J   60 in.

39 **Yolanda has 10 red tomatoes and 2 green tomatoes in a bag. All the tomatoes are the same size. If Yolanda takes 1 tomato from the bag without looking, which *best* describes the chance it will be a green tomato?**

A   Certain

B   Likely, but not certain

C   Unlikely, but not impossible

D   Impossible

40 The bar graph shows the number of each color pencil the school store sold last week.

Number of Pencils Sold
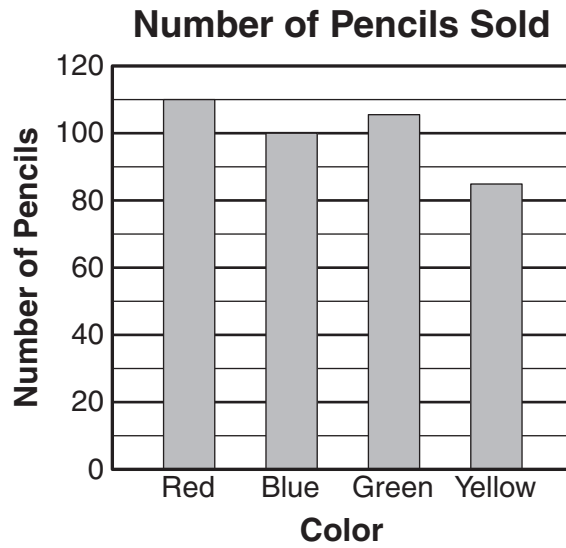
Based on the data in the graph, which of the following is *closest* to the total number of pencils sold last week?

F 350

G 400

H 450

J 500

41 Ron used circles and rectangles to make a pattern. For Figure 1, he used two rectangles. For Figure 2, he added two circles. He continued the pattern by adding two rectangles, then two circles.

Figure 1   Figure 2   Figure 3   Figure 4
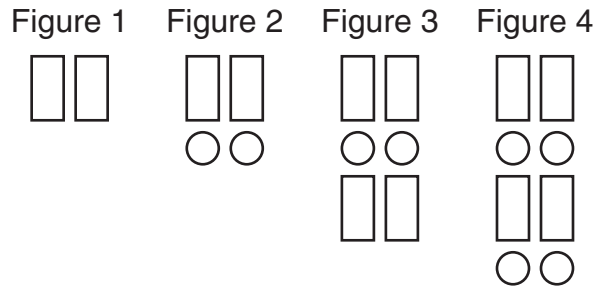
What will be the total number of circles in Figure 6?

A 2

B 4

C 6

D 8

42 Adrian is using a subtraction rule to make the number pattern shown below.

281   278   275   272   269

If the pattern continues in the same way, what will be the *7th* number in the pattern?

F 270

G 266

H 263

J 260

43 **Which is true?**

    A $12 \times 89 = 89 \times 12$

    B $12 \times 89 = 89 \div 12$

    C $12 \times 89 = 10 + 2 + 89$

    D $12 \times 89 = \left(12 \times 8\right) + \left(12 \times 9\right)$

44 **Alana used a rule to get each new number in the pattern shown.**

<div align="center">

5, 10, 20, 40, 80

</div>

Which could be the rule Alana used?

    F   Multiply by 2

    G   Add 10

    H   Add 5

    J   Multiply by 5

45 Dan is buying packages of cookies for class. Each package of cookies contains the same number of cookies.

Packages of Cookies

Number of Packages	Total Number of Cookies
1	4
2	8
3	12
4	16
5	20

Based on the information from the table, how many packages will Dan need to buy to have a total of 32 cookies?

A 6

B 7

C 8

D 9

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

$$12 + (8 + 25) = \underline{\hspace{1cm}}$$

F $(12 + 8) + 25$

G 12×33

H $33 + (12 + 8)$

J $20 + 37$

47 **Which goes in the blank to make the statement true?**

$$3 + 5 = \underline{\hspace{1.5cm}}$$

    A $5 \div 3$
    B $5 - 3$
    C 5×3
    D $5 + 3$

48 **Which will be true if an equal sign $(=)$ is placed in the empty box?**

    F $7 \times 6 \ \square \ 6 + 7$

    G $7 \times 6 \ \square \ 6 - 7$

    H $7 \times 6 \ \square \ 6 \times 7$

    J $7 \times 6 \ \square \ 6 \div 7$

49 $10 + 12 = \underline{\hspace{1.2cm}}$

    A $12 - 10$

    B 12×10

    C $12 \div 10$

    D $12 + 10$

GO ON

50 A number machine uses a rule to change numbers into different numbers. The following picture shows what happens when three different numbers go into and come out of the same number machine.


```
   2          5          8
   |          |          |
   v          v          v
 [ In ]     [ In ]     [ In ]
 [    ]     [    ]     [    ]
 [Out ]     [Out ]     [Out ]
   |          |          |
   v          v          v
   6          15         24
```
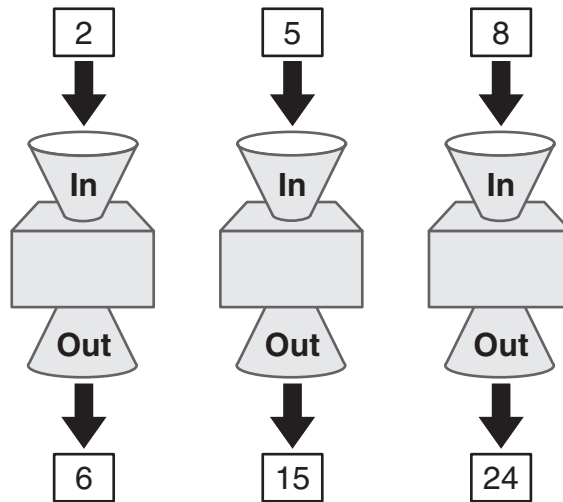
What number should come out if the number 12 goes into this number machine?

F   16

G   22

H   33

J   36

STOP

Answer Key-4071-M0117

Test Sequence Number	Correct Answer	Reporting Category	Reporting Category Description
1	B	002	Computation and Estimation
2	H	002	Computation and Estimation
3	A	002	Computation and Estimation
4	J	002	Computation and Estimation
5	B	002	Computation and Estimation
6	G	002	Computation and Estimation
7	C	002	Computation and Estimation
8	G	002	Computation and Estimation
9	D	002	Computation and Estimation
10	J	002	Computation and Estimation
11	C	002	Computation and Estimation
12	G	002	Computation and Estimation
13	C	001	Number and Number Sense
14	G	001	Number and Number Sense
15	A	001	Number and Number Sense
16	F	001	Number and Number Sense
17	D	001	Number and Number Sense
18	F	001	Number and Number Sense
19	B	001	Number and Number Sense
20	J	001	Number and Number Sense
21	A	003	Measurement and Geometry
22	H	003	Measurement and Geometry
23	A	003	Measurement and Geometry
24	H	003	Measurement and Geometry
25	D	003	Measurement and Geometry
26	J	003	Measurement and Geometry
27	B	003	Measurement and Geometry
28	J	003	Measurement and Geometry
29	A	003	Measurement and Geometry
30	G	003	Measurement and Geometry
31	D	003	Measurement and Geometry
32	H	003	Measurement and Geometry
33	B	004	Probability and Statistics
34	J	004	Probability and Statistics
35	A	004	Probability and Statistics
36	G	004	Probability and Statistics
37	A	004	Probability and Statistics
38	G	004	Probability and Statistics
39	C	004	Probability and Statistics
40	G	004	Probability and Statistics
41	C	005	Patterns, Functions, and Algebra
42	H	005	Patterns, Functions, and Algebra
43	A	005	Patterns, Functions, and Algebra
44	F	005	Patterns, Functions, and Algebra
45	C	005	Patterns, Functions, and Algebra
46	F	005	Patterns, Functions, and Algebra
47	D	005	Patterns, Functions, and Algebra
48	H	005	Patterns, Functions, and Algebra
49	D	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		086
2		135
3		164
4		186
5		203
6		218
7		231
8		242
9		253
10		262
11		271
12		279
13		287
14		295
15		302
16		309
17		316
18		322
19		329
20		335
21		342
22		348
23		354
24		360
25		366
26		372
27		378
28		384
29		391
30		397
31		**403**
32		410
33		416
34		423
35		430
36		437
37		445
38		453
39		461
40		470
41		480
42		490
43		**501**
44		514
45		529
46		546
47		568
48		598
49		600
50		600