VIRGINIA STANDARDS OF LEARNING

Spring 2010 Released Test

GRADE 5 MATHEMATICS

Form M0110, CORE 1

Property of the Virginia Department of Education

Directions

Read each question and choose the best answer.

SAMPLE

What is 17 rounded to the nearest ten?

A   10
B   15
C   20
D   25

1 $6\frac{1}{2} - 4\frac{1}{3} = \underline{\ ?\ }$

A $1\frac{1}{6}$

B 2

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

D $2\frac{1}{3}$

2 $3\overline{)4.155}$

F   1.385
G   1.455
H   13.85
J   14.55

3 $\dfrac{7}{9} + \dfrac{4}{9} = \underline{\ ?\ }$

A $\dfrac{3}{9}$

B $\dfrac{2}{3}$

C $1\dfrac{2}{9}$

D $1\dfrac{1}{3}$

4 $488 \div 23 = \underline{\ ?\ }$

F 24 R 8

G 21 R 5

H 20 R 8

J 20 R 5

5   36.21
      $\times$ 1.2

   A   43.452
   B   42.452
   C   10.863
   D   9.863

6   Mrs. Campano purchased 3 cases of pencils. Each case contained 96 pencils. What was the total number of pencils purchased?

   F   32
   G   99
   H   278
   J   288

7   What is the quotient?

$$12.95 \div 5 = \underline{\ ?\ }$$

   A   2.23
   B   2.58
   C   2.59
   D   2.63

8 $\dfrac{5}{9} - \dfrac{1}{3} = \underline{\quad ? \quad}$

F $\dfrac{8}{9}$

G $\dfrac{2}{3}$

H $\dfrac{4}{9}$

J $\dfrac{2}{9}$

9   **This table shows the number of miles Mrs. Warren drove in the first three months of the year.**

Miles Driven

Month	Number of Miles
January	1,193
February	987
March	1,602

What was the total number of miles Mrs. Warren drove in these three months?

A   3,772

B   3,782

C   11,565

D   12,665

10
$$\begin{array}{r} 30.5 \\ -16.9 \\ \hline \end{array}$$

F 13.6

G 14.6

H 24.4

J 26.4

11 $\dfrac{4083}{40} = \dfrac{?}{}$

A 12

B 12 R3

C 100

D 102 R3

12 A total of 355 chairs are needed for a school performance. There are 227 chairs already in place. How many more chairs are needed?

F 128

G 132

H 572

J 582

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

STOP

13 **Which decimal is equal to $\frac{4}{5}$?**

    A   0.8

    B   0.45

    C   0.08

    D   0.045

14 **Which list of fractions is ordered from *least* to *greatest*?**

$$\frac{2}{5}, \ \frac{3}{10}, \ \frac{1}{2}, \ \frac{3}{5}$$

    F $\frac{1}{2}, \ \frac{2}{5}, \ \frac{3}{5}, \ \frac{3}{10}$

    G $\frac{3}{5}, \ \frac{1}{2}, \ \frac{2}{5}, \ \frac{3}{10}$

    H $\frac{3}{10}, \ \frac{3}{5}, \ \frac{2}{5}, \ \frac{1}{2}$

    J $\frac{3}{10}, \ \frac{2}{5}, \ \frac{1}{2}, \ \frac{3}{5}$

15 **What is the value of the 1 in 3.619 ?**

    A   One thousandth

    B   One

    C   One hundredth

    D   One tenth

16 **Which statement below is true?**

    F   25.32 < 25.319

    G   25.32 < 25.309

    H   25.32 < 25.302

    J   25.32 < 25.331

17 **What is 36.357 rounded to the nearest tenth?**

    A   40.0

    B   36.4

    C   36.3

    D   30.0

18 **Which of the following is the correct way to read 45.863 ?**

    F   Forty-five and eight hundred sixty-three thousandths

    G   Forty-five and eight hundred sixty-three thousands

    H   Forty-five and eight hundred sixty-three hundredths

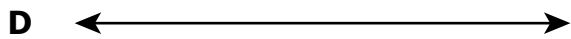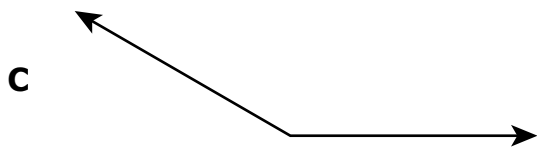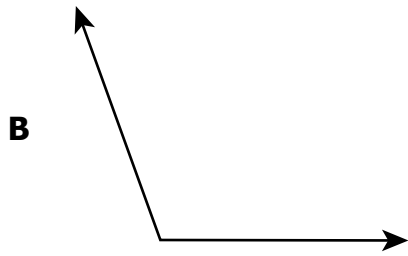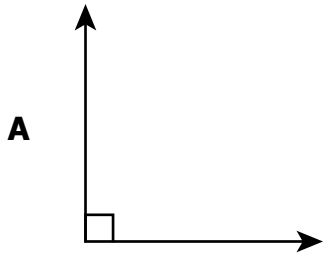   **J**   Forty-five and eight hundred sixty-three hundreds

19 **Which decimal is equivalent to** $\dfrac{7}{10}$ **?**

    A   7.10

    B   0.7

    C   0.07
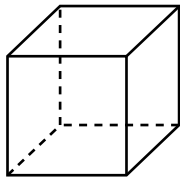
    D   0.007

20 **What is 516.823 rounded to the nearest hundredth?**

    F   500

    G   517

    H   516.83

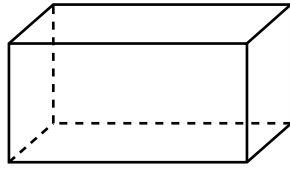   **J**   516.82

21 **Which angle is closest to 110 degrees?**
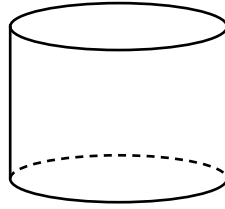
A

B

C

D

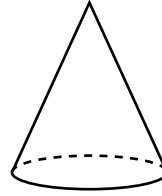**22** **Which two of these solid geometric figures have fewer than five faces each?**
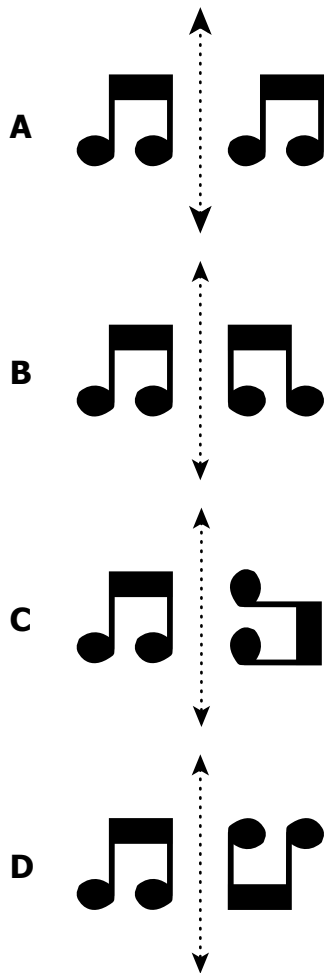

1 2 3 4

F 1 and 2

G 1 and 3

H 2 and 4

J 3 and 4

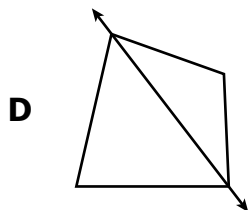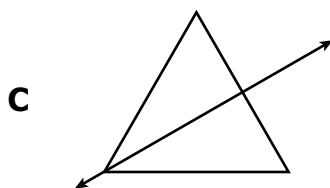**23** **Which of the following shows a translation (slide) of the shape across the dotted line?**

A

B

C

D

24 **Marissa needs to measure the distance between two cities on a small map. Which tool is *best* to use to measure this distance?**

F Thermometer

G Balance Scale

H Compass

J Ruler

25 **Which picture shows a line that is *not* a line of symmetry?**

A

B

C

D
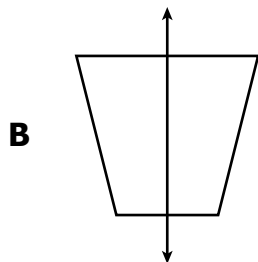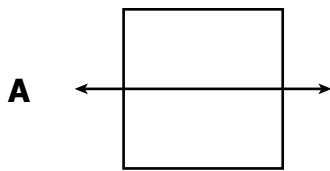
26 **Brad began working on a project at 10:15 A.M. He finished the project at 3:26 P.M. How long did it take Brad to complete the project?**

   F   4 hours 11 minutes

   G   4 hours 41 minutes

   H   5 hours 11 minutes

   J   5 hours 41 minutes

27 Which two figures are similar but *not* congruent?

(1)

(2)

(3)

(4)
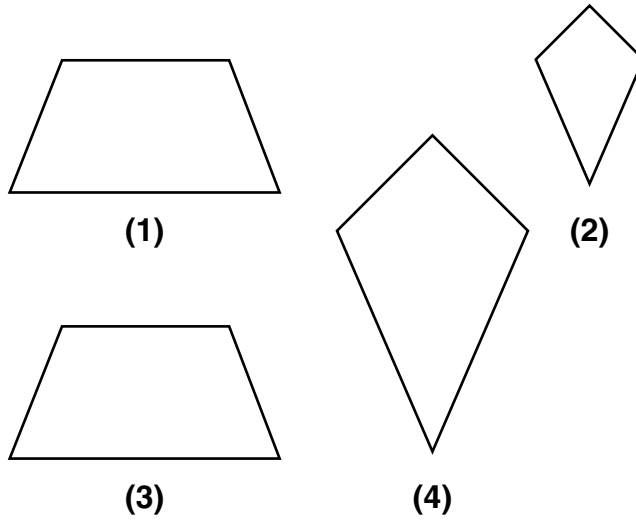
A 1 and 2

B 1 and 3

C 2 and 3

D 2 and 4

28 **Ms. Perry placed a border around the bulletin board.**
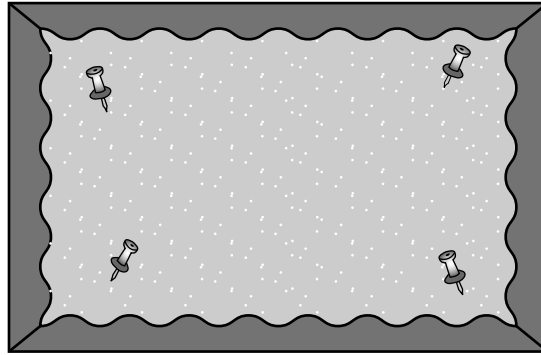
The length of the border is an example of —

F area

G volume

H perimeter

J circumference

29 **Which of the following are the dimensions of a rectangle with a perimeter of 26 inches and an area of 42 square inches?**

A Length — 1 inch; width — 26 inches

B Length — 2 inches; width — 13 inches

C Length — 2 inches; width — 21 inches

D Length — 6 inches; width — 7 inches

30   Point B is the center of the circle shown.
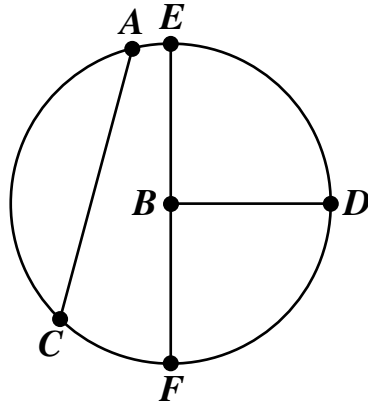
Which of the following *best* describes $\overline{BD}$?

F   Chord
G   Radius
H   Diameter
J   Circumference

31 **Which of these is an obtuse triangle?**

A

B

C

D
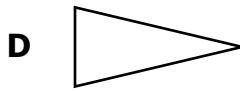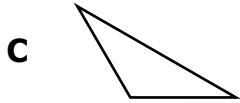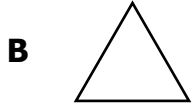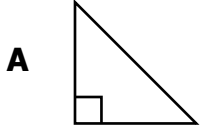
32 **Which measurement is *closest* to the amount of milk in one drinking glass?**

F   2 cups
G   2 liters
H   2 quarts
J   2 gallons

33 **What is the mean (average) for the following set of data?**

7, 4, 24, 20, 35

   A   18
   B   20
   C   24
   D   31

34 **Greg needs an outfit for school. He must choose 1 shirt, 1 pair of pants, and 1 pair of shoes.**

Clothes Combinations

Color of Shirt	Color of Pants	Type of Shoes
Green	Tan	Boots
	Red	Sneakers

Based on the information in the chart, which tree diagram shows all of Greg's possible combinations?

F

Green Shirt → Tan Pants → Boots

G

Green Shirt
Tan Pants → Boots, Sneakers
Red Pants → Boots, Sneakers

H

Green Shirt
Tan Pants → Boots
Red Pants → Sneakers

J

Green Shirt → Tan Pants → Boots, Sneakers
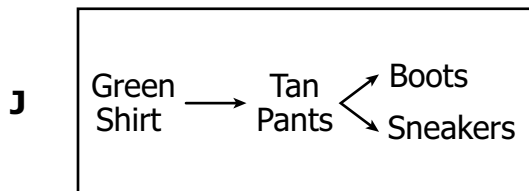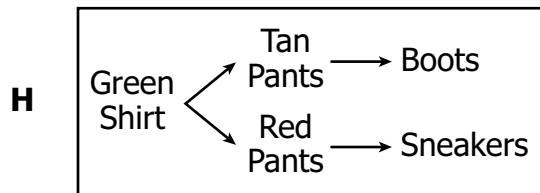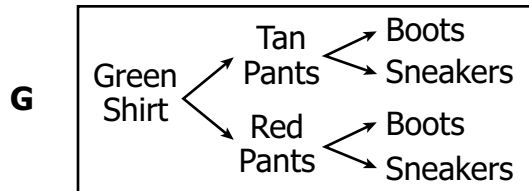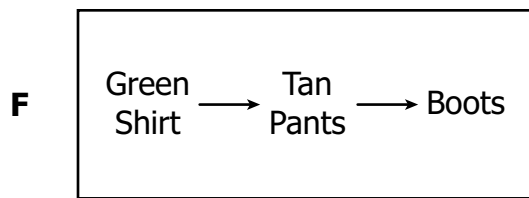
35 **A box contains 5 red, 4 yellow, and 3 green tiles of equal size. Which question could be answered using probability?**

A   If Liz selects one tile from the box without looking, which color of tile is she most likely to select?

B   If Liz selects one tile from the box without looking, how many tiles will be left?

C   How many more red tiles are there than green tiles?

D   What is the total number of tiles in the box?

GO ON

36 **The spinner shown is divided into equal sections.**
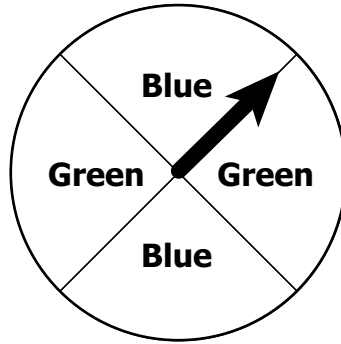
What is the probability that the arrow will point to a green section in one spin?

F $\dfrac{4}{4}$

G $\dfrac{2}{2}$

H $\dfrac{2}{4}$

J $\dfrac{1}{4}$

37 Julian made the following list of all his math quiz scores.

77, 85, 86, 88, 88, 89, 89, 91, 93, 94, 97, 99, 99

Which stem-and-leaf plot correctly shows Julian's quiz scores?

Quiz Scores

A

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

Key
7|7 means 77.

Quiz Scores

B

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

Key
7|7 means 77.

Quiz Scores

C

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

Key
7|7 means 77.

Quiz Scores

D

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

Key
7|7 means 77.

38 Leland is playing a game with these spinners.
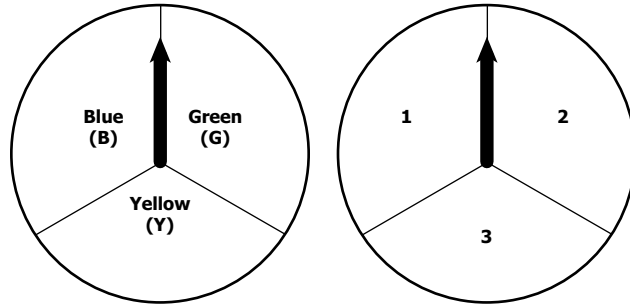
Leland will spin the arrow on each spinner 1 time. Which tree diagram shows all of the possible outcomes?

F

B < 2 3

G < 1 3

Y < 1 2

G

B < 1 2

G < 2 3

Y < 3 1

H

B < 1 2 3

G < 1 2 3

Y < 1 2 3

J

B < 2 2 3

G < 1 3 3

Y < 1 1 2
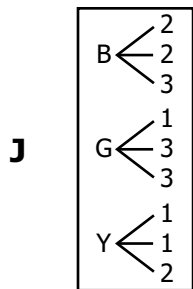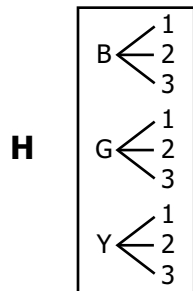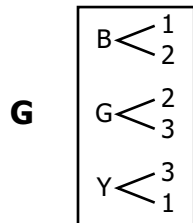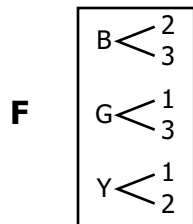
39 **Look at the graph.**

DVD Sales
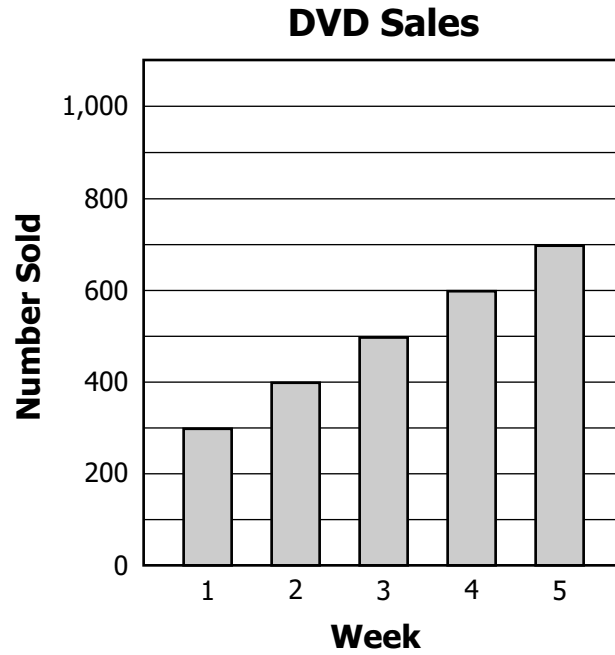
Based on the trend shown by the data in the graph, which is the *best* prediction of the number of DVDs that will be sold during week 6 ?

A 600

B 700

C 800

D 1,000

40 **What is the mode for the following set of numbers?**

6, 10, 8, 7, 9, 8, 9, 7, 7

F 6
G 7
H 8
J 9

41 **Which of these could be solved by using the open sentence $9 - 3 = p$?**

A Alexa had 9 parakeets. She gave 3 to Gabby. How many parakeets did Alexa have left?

B Alexa had 9 parakeets. She gave each of them 3 treats. How many treats did Alexa give them in all?

C Alexa had 9 parakeets. She got 3 more from Gabby. How many parakeets does she have now?

D Alexa had 9 parakeets. She kept them in 3 big cages. Each cage had the same number of parakeets. How many parakeets were in each cage?

42 **Which is the variable in the expression $5n + 2$?**

F 5
G n
H $+$
J 2

GO ON

43 What should be the 4th figure in the pattern?

A

B

C

D
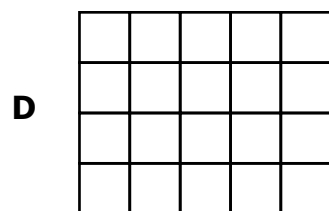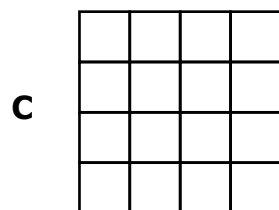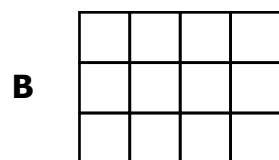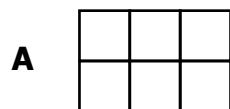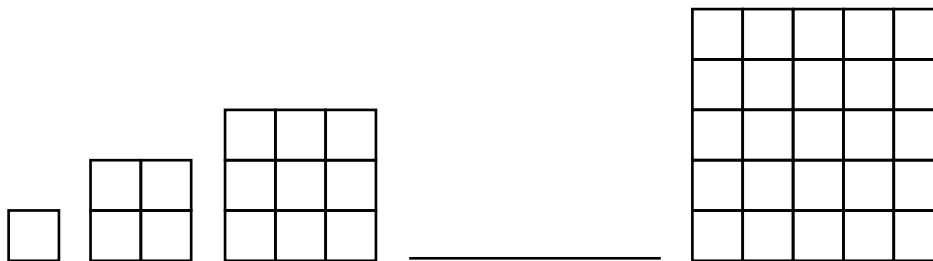
44 There are a total of y students in Mr. Smith's classroom. Which of the following represents the number of students in the classroom when 3 students are absent?

F $y+3$

G $y-3$

H $y\times3$

J $y\div3$

45 Mr. Tanner bought 4 books of stamps. Each book contained the same number of stamps. If s represents the number of stamps in each book, which of the following could be used to determine the total number of stamps Mr. Tanner bought?

A $s\times4=?$

B $s\div4=?$

C $s-4=?$

D $s+4=?$

46 **Bill wants to give away 1,152 trading cards. He divides the cards equally among 8 friends and writes the equation $1{,}152 \div 8 = x$. What does the x represent in the equation?**

F The number of cards each person will receive

G The number of cards remaining

H The number of Bill's friends

J The number of cards Bill has

47 **Darius has 25 marbles that will be separated into g equal groups. Which expression represents the number of marbles in each group?**

A $25 \div g$

B $25 - g$

C $g \times 25$

D $g + 25$

48 Which problem could be solved using the open sentence $2x = 6$?

F Gabe washed 6 loads of laundry each day for 2 days. How many loads of laundry did he wash all together?

G After Gabe washed 2 loads of laundry, he had 6 more loads to wash. How many loads of laundry did he start with?

H Gabe washed the same number of loads of laundry each day for 2 days. He washed a total of 6 loads of laundry. How many loads did he wash each day?

J Gabe washed 2 loads of laundry on Monday. On Tuesday he washed some more loads. All together he washed 6 loads. How many loads of laundry did Gabe wash on Tuesday?

49 Raymond has three times as many trading cards as his friend David. David has 34 trading cards. Which number sentence could be used to find r, the number of trading cards that Raymond has?

A $r = 3 + 34$

B $r = 3 \div 34$

C $r = 3 \times 34$

D $r = 34 - 3$

50 This table shows how much money Tiffany has in her savings at the end of each month.

Tiffany's Savings

Month	Savings
1	$7
2	$14
3	$21
4	$28
5	$35
6	$42

If the pattern continues, what is the total amount of money that Tiffany will have in her savings at the end of *9 months*?

F $49

G $56

H $63

J $70

STOP

Answer Key-5072-M0110

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

Grade 5 Math, Core 1

If you get this many items correct:		Then your converted scale score is:
0		000
1		018
2		074
3		108
4		133
5		153
6		170
7		185
8		198
9		209
10		220
11		230
12		240
13		249
14		258
15		266
16		274
17		282
18		289
19		297
20		304
21		311
22		319
23		326
24		333
25		340
26		347
27		354
28		361
29		368
30		376
31		383
32		391
33		399
34		**407**
35		415
36		424
37		433
38		442
39		452
40		463
41		475
42		487
43		**501**
44		517
45		535
46		556
47		582
48		600
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.