GRADE

6

PRACTICE TEST BOOK

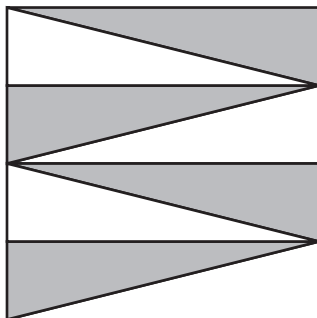**Mississippi Curriculum Test, Second Edition**

MCT2

MISSISSIPPI

MATHEMATICS

Mark your answers for questions 1–60 on your answer document. Mark only one answer for each question. You may write in your test booklet, but you must mark your answers on your answer document.

1. Ms. Jones used shapes to make a rectangular piece of a quilt.

   What is the name given to each shape that is shaded?

   A. Equilateral triangle
   B. Isosceles triangle
   C. Obtuse triangle
   D. Right triangle

2. The enrollment for sixth grade at a middle school is 180 students. On Wednesday, 5% of the sixth-grade students were absent.

   How many sixth-grade students were absent on Wednesday?

   F. 5
   G. 9
   H. 90
   J. 95

3. Amy made the frequency table below to show the rank her team finished in 12 cheerleading competitions.

Competition Finishes

Rank	Tally
First	||
Second		
Third	‖‖|
Fourth	|||

   Which rank did Amy's team finish in the greatest number of times?

   A. First
   B. Second
   C. Third
   D. Fourth

4. Brian and Ted used the equation $17 = d + 12$ to find d, the money Ted needed so that he had the same amount of money as Brian.

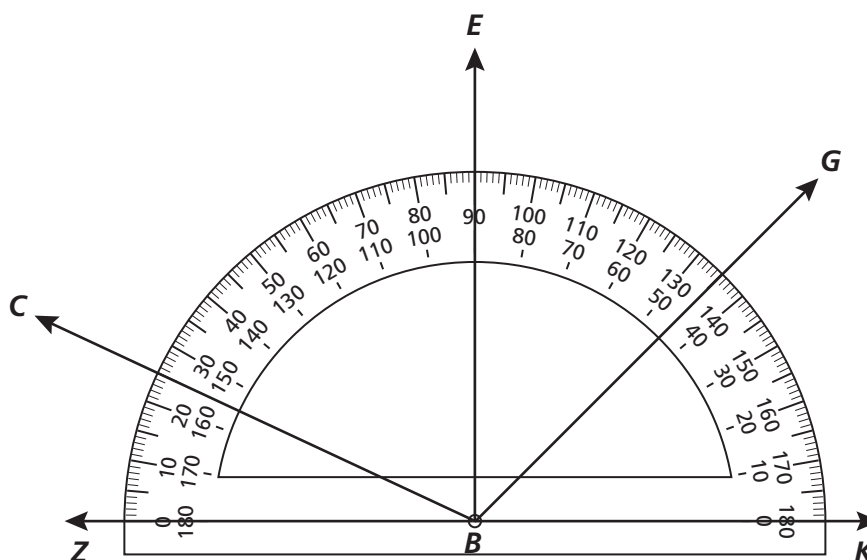   Which equation explains the process Brian and Ted could have used to find d?

   F. $17 - 17 = d + 12 - 17$
   G. $17 + 17 = d + 12 + 17$
   H. $17 - 12 = d + 12 - 12$
   J. $17 + 12 = d + 12 + 12$

GO ON

5. Part of a screen saver on a computer is shown.
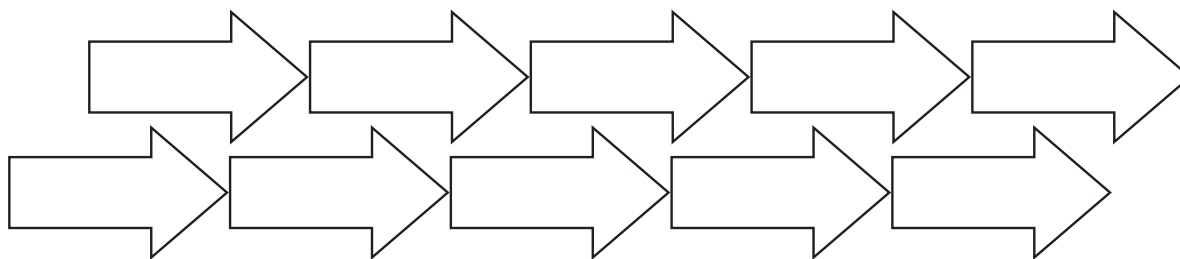
Which term describes this transformation?

A. Dilation

B. Reflection

C. Rotation

D. Translation

6. Which angle appears to measure 110° in the following figure?

F. ∠EBZ

G. ∠ZBG

H. ∠GBC

J. ∠CBK

GO ON

7. Darron's family visited an alligator farm on their vacation. They recorded the lengths, in inches, of the alligators the guide showed them below.

   74, 96, 132, 81, 115, 79, 93, 146

   If they would have found one more alligator that was 102 inches long, which measure would have changed?

   A. Mean

   B. Median

   C. Mode

   D. Range

8. Perry baked 2 blueberry pies for a party. At the end of the party, $\frac{5}{8}$ of one pie was left over and $\frac{9}{16}$ of the other pie was left over.

   How much pie was left over altogether?

   F. $1\frac{1}{4}$

   G. $1\frac{3}{16}$

   H. $\frac{7}{8}$

   J. $\frac{1}{16}$

9. The table shows t, the amount of time, a train took to travel d, a certain distance.

   Train Travel

Time (in minutes)	Distance (in miles)
15	45
16	48
17	51
18	54

   Which rule shows the relationship between the amount of time the train traveled and the distance it traveled?

   A. $t=\frac{d}{3}$

   B. $t=\frac{d}{5}$

   C. $t=d\times 3$

   D. $t=d-30$

10. Which of these equations shows the Associative Property of Multiplication?

    F. $(a\times b)c = a(b\times c)$

    G. $a(b\times c) = (a\times b)\times(a\times c)$

    H. $a\times 1 = 1\times a$

    J. $(a\times b)\times c = (b\times a)\times c$

GO ON

11. A large bookstore donated 1,255 books to schools each month last year.

How many books did the bookstore donate to schools last year?

A. 1,267
B. 3,765
C. 14,950
D. 15,060

12. Which statement is ALWAYS true about a hexagon?

F. It has exactly 6 sides.
G. It has 6 obtuse angles.
H. It has 6 congruent angles.
J. It has exactly 1 acute angle.

13. A grocery store sells apples for $0.54 each.

Based upon this information, which estimate is reasonable for the total cost of 13 apples?

A. $700.00
B. $70.00
C. $7.00
D. $0.70

14. Mr. Moore cut a piece of lumber in the shape of the figure below.
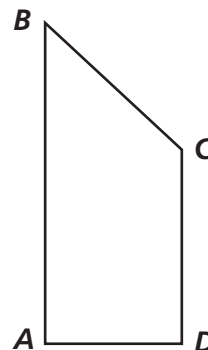
What type of angle is $\angle ABC$?

F. Acute
G. Obtuse
H. Right
J. Straight

15. A fish tank is in the shape of a rectangular prism that is 48 inches long, 18 inches wide, and 20 inches high.

Jamie predicted that the volume of the fish tank is 20,000 cubic inches.

Which expression represents how Jamie predicted the volume of the fish tank?

A. 50×20
B. $50 \times 20 \times 20$
C. $(50 \times 20) + (50 \times 20) + (20 \times 20)$
D. $2(50 \times 20) + 2(50 \times 20) + 2(20 \times 20)$

GO ON

16. Keisha used the following information to find the number of each size of candy bar that she can purchase for exactly $4.00 altogether.

- Small bars cost $0.60 each.
- Large bars cost $1.10 each.
- Let y = the number of small bars.
- Let z = the number of large bars.
- $\$4.00 = \$0.60y + \$1.10z$

Keisha used a guess-and-check process to find the solution.

Which expression explains Keisha's correct solution?

F. $\$0.60(5) + \$1.10(1)$

G. $\$0.60(3) + \$1.10(2)$

H. $\$0.60(1) + \$1.10(3)$

J. $\$0.60(0) + \$1.10(5)$

17. Dan had $3\frac{1}{8}$ feet of string. He cut off a piece that was $1\frac{3}{4}$ feet long.

How many feet of string did Dan have left?

A. $1\frac{3}{8}$ feet

B. $2\frac{3}{8}$ feet

C. $2\frac{1}{2}$ feet

D. $4\frac{1}{3}$ feet

18. Francis is covering a living room floor with tile. A triangular fireplace is in one corner of the room, and the floor under it will not be covered with tile. The following drawing shows the dimensions of the floor in feet.

12 ft

10 ft
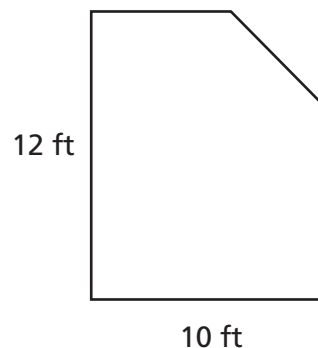
Which estimate is closest to the area of the living room floor that Francis will cover with tile?

F. 40 square feet

G. 60 square feet

H. 110 square feet

J. 120 square feet

19. Harrison had an 89 average on his first 4 reading tests. On his next 2 reading tests, he scored a 93 and a 78.

How did these 2 additional tests affect his overall average?

A. Raised his average 2.3 points

B. Lowered his average 2.3 points

C. Raised his average 1.2 points

D. Lowered his average 1.2 points

GO ON

20. Jamaal earned money cutting lawns after school. On Monday he earned $35, and on Tuesday he earned $25. By the end of the week, he had earned a total of $250. Jamaal wrote the equation $250 - 35 - 25 = x$ to represent the amount of money he earned after Tuesday.

Which statement justifies how Jamaal wrote his equation?

F. Jamaal used inverse operations on $250 + 35 + 25 = x$.

G. Jamaal used inverse operations on $250 - 35 - 25 = x$.

H. Jamaal used inverse operations on $x + 35 + 25 = 250$.

J. Jamaal used inverse operations on $x - 35 - 25 = 250$.

21. A teacher wrote the following mathematics problem on the board.

$$2.035$$
$$\times\ \underline{0.43}$$

What is the solution to the mathematics problem?

A. 875.05

B. 87.505

C. 8.7505

D. 0.87505

22. Ben is 5 feet 4 inches tall.

How many inches tall is Ben?

F. 4 inches

G. 54 inches

H. 60 inches

J. 64 inches

23. Malone used the rule $y = 5 - 2x$ to complete the table below.

x	y
$\frac{2}{9}$	$\frac{41}{9}$
$\frac{1}{7}$	?
$\frac{3}{8}$	$\frac{17}{4}$
$\frac{4}{5}$	$\frac{17}{5}$

Which of the following correctly completes Malone's table?

A. $\frac{2}{7}$

B. $\frac{32}{7}$

C. $\frac{33}{7}$

D. $\frac{34}{7}$

GO ON

24. Which of the following statements is true about a pentagonal prism?

F. A pentagonal prism has exactly 10 edges.

G. A pentagonal prism has exactly 5 vertices.

H. A pentagonal prism has exactly 5 faces that are shaped like pentagons.

J. A pentagonal prism has exactly 2 faces that are shaped like pentagons.

**25. Ellen read the following question.**

If a mockingbird chick eats about 42 meals each day, about how many meals will it eat in a month?

Ellen used multiples of 10 and estimated the answer to be about 1200.

Which estimation strategy did Ellen use?

A. Round 42 down and multiply by 10.

B. Round 42 down and multiply by 30.

C. Round 42 up and multiply by 30.

D. Round 42 up and multiply by 10.

26. Kari will copy the shaded triangle in the figure below and use transformations to make a square.
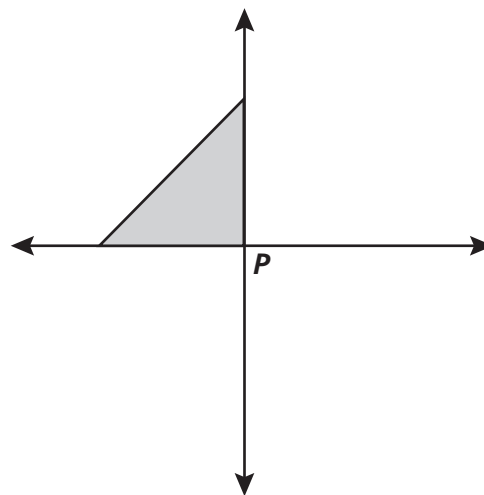
Which of the following could be used to make a square?

F. Make 3 copies and use translations

G. Make 3 copies and use rotations about point *P*

H. Make 1 copy and use a reflection across a line

J. Make 1 copy and use a rotation about point *P*

GO ON

27. The letters listed below are the first letters of the names of the summer camp instructors.

L, L, A, M, C, C, M, A, T, D, D, L, D, T, C

Which frequency table best represents this data?

A. **First Letter of Names**

Letter	Tally
A	‖
C	‖‖
D	‖‖
L	‖‖
M	‖
T	‖

C. **First Letter of Names**

Letter	Tally
A	‖
C	‖
D	‖
L	‖
M	‖
T	‖

B. **First Letter of Names**

Letter	Tally
A	‖
C	‖‖
D	‖
L	‖‖
M	‖
T	‖

D. **First Letter of Names**

Letter	Tally
A	‖
C	‖‖
D	‖‖‖ ‖
L	‖
M	‖‖
T	‖‖‖

GO ON

28. The following diagram shows the image and pre-image in a 200% dilation.

U′

Z′   W′

U

Z   W

Y′   X′   Y   X

Image   **Pre-image**
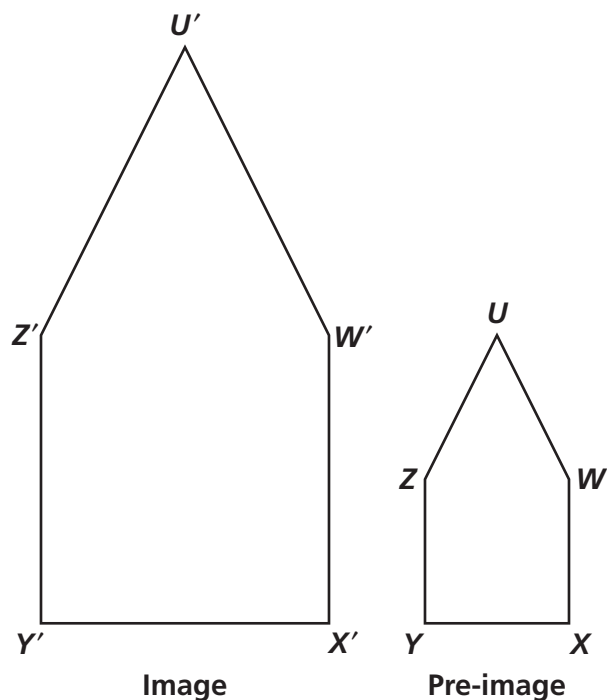
Which statement describes the relationship of ∠U′ to ∠U?

F.   ∠U′ is half the size of ∠U.

G.   ∠U′ is congruent to ∠U.

H.   ∠U′ is twice the size of ∠U.

J.   ∠U′ is three times the size of ∠U.

29. A crew needs to pick up litter along one side of a section of highway that is 49.5 kilometers long.

How many kilometers must the crew clean each day in order to finish the job in 5.5 days?

A.   0.11 km

B.   0.9 km

C.   9.0 km

D.   11.2 km

30. Juan wants to make a rectangular playing field with a perimeter close to 36 yards.

Which dimensions give Juan's playing field a perimeter closest to 36 yards?

F.   6 yards long, 6 yards wide

G.   9 yards long, 4 yards wide

H.   10 yards long, 6 yards wide

J.   12 yards long, 5 yards wide

GO ON

31. Ms. Rodriguez wants to check that
$y = 4x - 1$ is the rule for the following
function table.

x	y
1	3
2	7
3	11
4	15
5	19

**How should Ms. Rodriguez check the
rule?**

A. Multiply each *x*-value by 4 and
   subtract 1 to see if the result is the
   corresponding *y*-value.

B. Multiply the first *x*-value by 4 and
   subtract 1 to see if the result is the
   first *y*-value.

C. Subtract 1 from each *x*-value to see
   if the result is the previous *x*-value.

D. Subtract 4 from the second *y*-value
   to see if the result is the first *y*-value.

32. Thalia has 65 red balloons and 52 blue
balloons.

**What is the greatest common factor of
65 and 52?**

F. 15

G. 13

H. 5

J. 4

33. A team of mountaineers climbed
4,200 feet to a camp that was at an
altitude of 14,500 feet. Mario
represented the situation with the
equation $p + 4,200 = 14,500$.

**Which statement justifies Mario's
equation?**

A. Mario used 4,200 to represent the
   mountaineers' starting point, then
   added 14,500 so that the result
   was *p*.

B. Mario used 14,500 to represent the
   mountaineers' starting point, then
   added 4,200 so that the result was *p*.

C. Mario used *p* to represent the
   mountaineers' starting point, then
   added 14,500 so that the result
   was 4,200.

D. Mario used *p* to represent the
   mountaineers' starting point, then
   added 4,200 so that the result
   was 14,500.

34. Jessica and her parents drove
270.22 miles on a weekend trip to the
lake. They drove 24.3 miles for each
gallon of gas used.

**Which is closest to the amount of gas,
in gallons, they used for the trip?**

F. 11.00 gallons
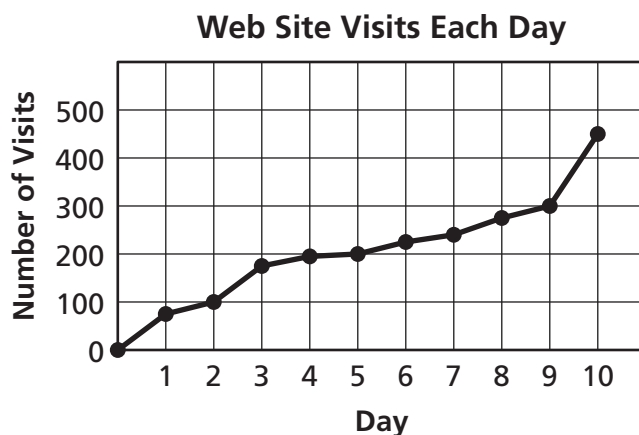
G. 11.12 gallons

H. 11.25 gallons

J. 11.58 gallons

35. The table below shows values of *y* for known values of *x*.

x	10	20	30	40	50	60
y	5	15	25	35	45	55

Which expression can be used to find the value for *y* given the value for *x*?

A. $x \div 2$

B. $x - 5$

C. $x + 5$

D. $2x$

36. The following line graph shows the numbers of visits Greg's new Web site received each day over a ten-day period.

Web Site Visits Each Day

Based upon the trend in the line graph, which prediction should Greg make about the number of visits that his Web site will receive each day during the next ten days?

F. The number of visits each day will decrease.

G. The number of visits each day will increase.

H. The number of visits each day will stay about the same.

J. The number of visits each day will increase and then decrease.

GO ON

37. Tim's mathematics teacher asked him to explain the expression −8 • 7.

Which answer should Tim give?

A. The expression represents 7 groups of 8 positives.

B. The expression represents 8 groups of 7 positives.

C. The expression represents 7 groups of 8 negatives.

D. The expression represents 8 groups of 7 negatives.

38. The chart below shows the number of pages Tracey read each day for 5 days last week.
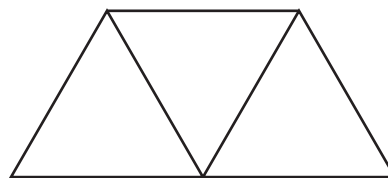
Tracey's Reading Last Week

Day	Number of Pages
Monday	20
Tuesday	22
Wednesday	18
Thursday	18
Friday	32

If Tracey had read only 10 pages on Monday instead of 20 pages, which of the following measures of data would have the greatest change?
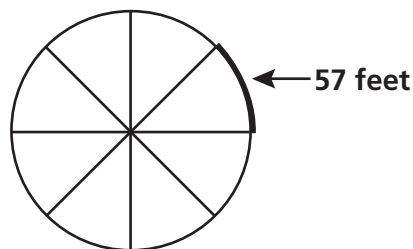
F. Mean

G. Median

H. Mode

J. Range

39. Chang has 3 identical triangles arranged on his desk as shown in the following picture.

Which of the following is the best estimate for each angle in one of the triangles?

A. 60°

B. 90°

C. 180°

D. 360°

40. The Jensen family is putting a fence around its circular garden. The length of $\frac{1}{8}$ of the fence measures 57 feet, as shown below.

57 feet

What is the circumference of the Jensen family's entire garden?

F. 456 feet

G. 358 feet

H. 179 feet

J. 114 feet

GO ON

41. Patricia's Towing Company charges a one time fee of $32 and $7 for each mile a vehicle is towed.

Which table represents the relationship between *m*, the number of miles a vehicle is towed and *c*, the total charges in dollars for towing?

A.

Towing Charges

Miles (*m*)	Total Charges (*c*)
1	$39
3	$53
6	$74
8	$88

C.

Towing Charges

Miles (*m*)	Total Charges (*c*)
1	$7
3	$21
6	$42
8	$56

B.

Towing Charges

Miles (*m*)	Total Charges (*c*)
1	$32
3	$96
6	$192
8	$256

D.

Towing Charges

Miles (*m*)	Total Charges (*c*)
1	$39
3	$117
6	$234
8	$312

42. The following bar graph shows the number of trees harvested in a forest each year for 4 years.
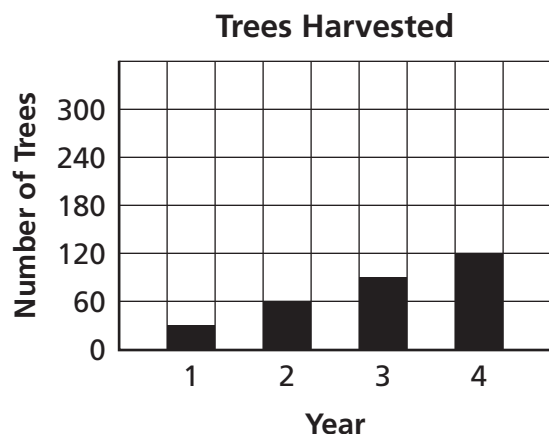
Trees Harvested

Which equation justifies the correct prediction of the number of trees harvested in year 9?

F. $150 = 120 + 30$

G. $210 = 120 + 90$

H. $240 = 120 + 120$

J. $270 = 120 + 150$

43. Which equation demonstrates the Distributive Property?

A. $a(b + c) = ab + ac$

B. $a + b + c = a + c + b$

C. $a + 0 = a$

D. $(ab)c = a(bc)$

44. Elizabeth bought a necklace that has a mass of 35 grams.

Which measure is equivalent to 35 grams?

F. 0.035 milligrams

G. 350 milligrams

H. 35,000 milligrams

J. 35,000 kilograms

45. Manuel baked a cake. He used 0.75 cup of frosting and 0.5 cup of sugar.

How should Manuel write these decimals as fractions?

A. $\frac{75}{100}$ and $\frac{5}{10}$

B. $\frac{75}{10}$ and $\frac{5}{10}$

C. $\frac{75}{100}$ and $\frac{5}{100}$

D. $\frac{75}{10}$ and $\frac{5}{100}$

GO ON

46. The table below lists the total number of acres in three of the national parks in the United States.

National Parks

Park	Size (in acres)
Death Valley	3,370,000
Denali	6,070,000
Katmai	4,730,000

Which of the following correctly compares the sizes of these national parks?

F. $4,730,000 < 6,070,000 < 3,370,000$

G. $4,730,000 < 3,370,000 < 6,070,000$

H. $3,370,000 < 6,070,000 < 4,730,000$

J. $3,370,000 < 4,730,000 < 6,070,000$

47. Which explanation correctly describes the process for making a reflection of rectangle *KMPQ*?

A. Flip rectangle *KMPQ* across the line of reflection

B. Turn rectangle *KMPQ* about point K.

C. Slide rectangle *KMPQ* across the line of reflection

D. Dilate rectangle *KMPQ* about point K.

48. Jason made the following line graph of the number of students who participated in school band each year.

Students in Band
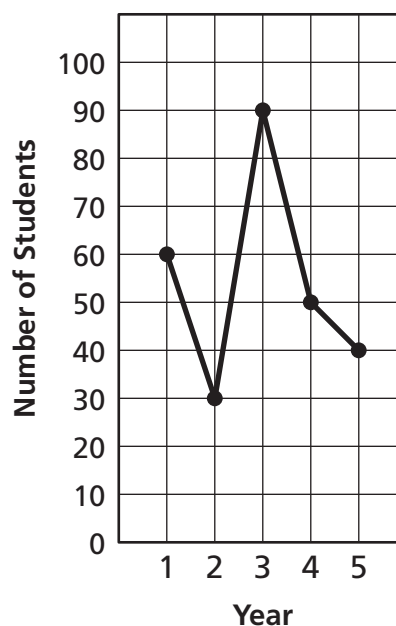
Based upon the line graph, which statement is correct?

F. The total number of students who were in band in years 2 and 3 is 100.

G. More students were in band in year 2 than in year 5.

H. More students were in band in year 3 than in year 1.

J. The number of students who were in band in year 4 is 60.

49. John was given the function table below for homework.

x	y
2	?
4	24
6	32
8	40

What missing value of y makes y = 4(x + 2) true for all values in John's table?

A.   8

B.   12

C.   16

D.   20

**50.** The diameter of Jackie's circle was 20 inches.

Which statement is true about Jackie's circle?

F.   Dividing the circumference of Jackie's circle by 20 inches is nearly equal to 3.14.

G.   Dividing 20 inches by the circumference of Jackie's circle is exactly equal to 3.14.

H.   Multiplying the circumference of Jackie's circle by 20 inches is nearly equal to 3.14.

J.   Multiplying 20 inches by the circumference of Jackie's circle is exactly equal to 3.14.

51. What is the least common multiple of 18 and 40?
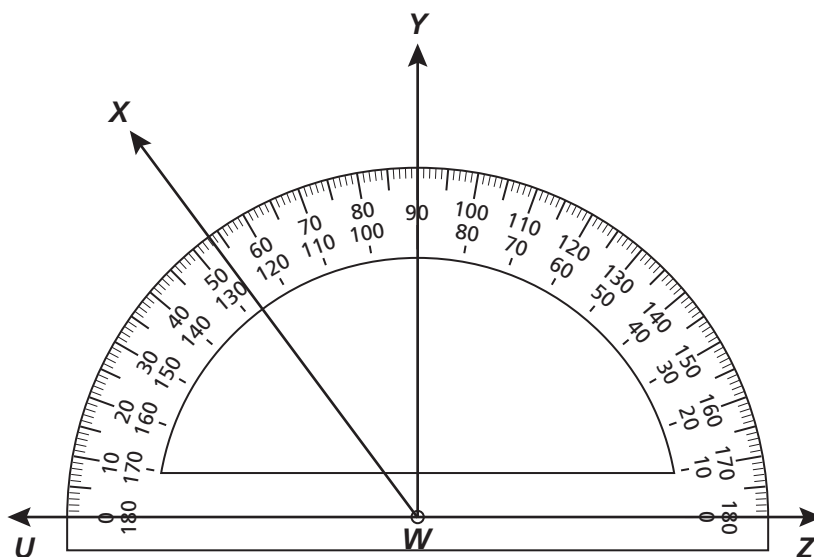
A.   2

B.   40

C.   180

D.   360

52. The following diagram shows a dilation.
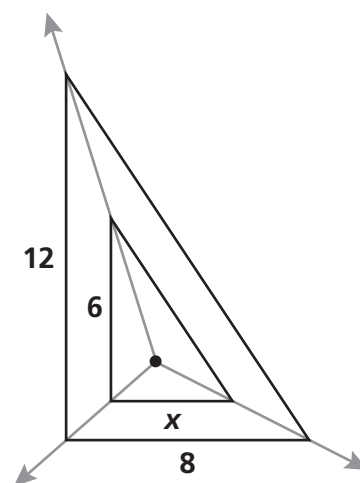
Which proportion could be used to determine the length of side x?
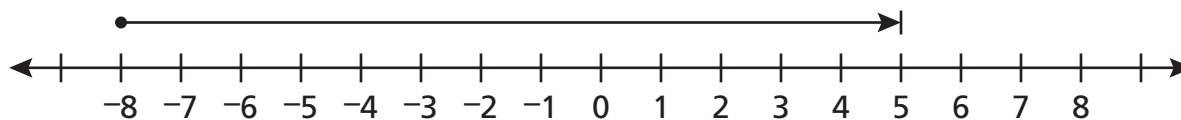
F. $\dfrac{12}{8} = \dfrac{x}{6}$

G. $\dfrac{8}{12} = \dfrac{6}{x}$

H. $\dfrac{12}{6} = \dfrac{x}{8}$

J. $\dfrac{6}{12} = \dfrac{x}{8}$

GO ON

53. Which word describes ∠*UWX* in the following figure?

A. Straight

B. Right

C. Acute

D. Obtuse

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54. The following figure represents an equation that uses integers.

Which equation does the figure represent?

F. $-8 + 13 = 5$

G. $-8 - 13 = 5$

H. $-8 + 5 = 13$

J. $-8 - 5 = 13$

Page 20

GO ON

55. Each of the following phrases describes a numerical value.

- **The absolute value of 9**
- **The opposite of 9**

Which statement is true about the relationship between the numerical values?

A. The opposite of 9 is equal to the absolute value of 9.

B. The absolute value of 9 is less than the opposite of 9.

C. The opposite of 9 is the same distance from 0 on a number line as the absolute value of 9.

D. The absolute value of 9 is farther from 0 on a number line than the opposite of 9.

56. Perry baked 2 blueberry pies for a party. At the end of the party, $\frac{5}{8}$ of one pie was left over and $\frac{9}{16}$ of the other pie was left over.

How much pie was left over altogether?

F. $1\frac{1}{4}$

G. $1\frac{3}{16}$

H. $\frac{7}{8}$

J. $\frac{1}{16}$

57. The following stem-and-leaf plot shows Luke's mathematics grades.

Luke's Mathematics Grades

5	8
6	5 9
7	5 5 8
8	0 5 5
9	0 5 8
10	0 0 0

Key: 7 | 5 represents 75

Which explanation describes the data in the stem-and-leaf plot?

A. The grades improved over time.

B. The grades varied by as much as 42.

C. The average grade was about 75.

D. The median grade increased over time.

58. Which best describes a square pyramid?

F. It has the same number of faces and vertices.

G. It has the same number of faces and edges.

H. It has more vertices than edges.

J. It has more faces than edges.

GO ON

59. The following line graph shows the numbers of customers that went to a pizza restaurant during the first 4 days of its grand opening week.

Customers during Grand Opening
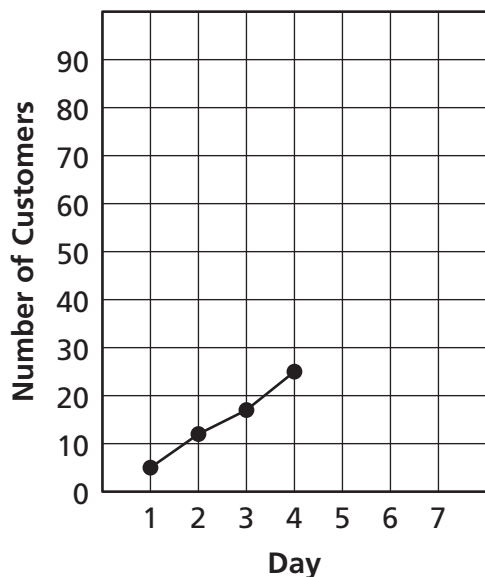
Based upon the trend in the line graph, which prediction about the number of customers on day 7 is justified?

A. The number of customers increases by less than 10 each day, so the number of customers on day 7 should be approximately 43.

B. The number of customers increases by less than 10 each day, so the number of customers on day 7 should be approximately 58.

C. The total number of customers increased by 20 from day 1 to day 4, so the number of customers on day 7 should be approximately 65.

D. The total number of customers increased by 20 from day 1 to day 4, so the number of customers on day 7 should be approximately 85.

60. Samuel drew a clock with hands that form an obtuse angle.

Which of the following could be the clock Samuel drew?

F.

G.

H.

J.
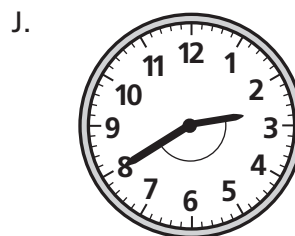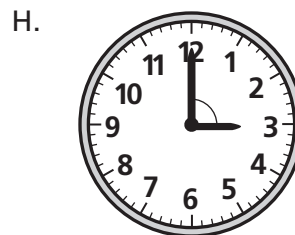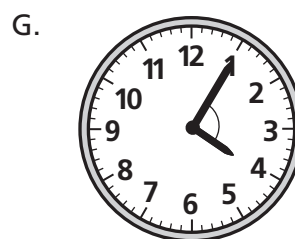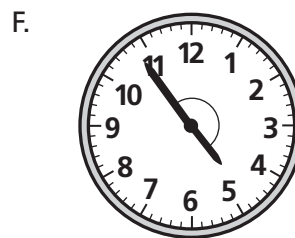
BE SURE YOU HAVE MARKED ALL YOUR ANSWERS

ON THE ANSWER DOCUMENT.

STOP

Grade 6 Math Practice Test 2 Key

Item Sequence	Answer Key	Competency	Objective	Framework DOK	Item PLD	Item DOK
1	D	3	c	1	Proficient	1
2	G	1	h	2	Proficient	2
3	C	5	a	2	Proficient	2
4	H	2	a	2	Proficient	2
5	D	3	a	3	Proficient	1
6	H	4	f	1	Basic	1
7	B	5	b	2	Proficient	2
8	G	1	d	1	Basic	1
9	A	2	e	2	Proficient	2
10	F	2	d	1	Proficient	1
11	D	1	i	1	Basic	1
12	F	3	c	1	Proficient	1
13	C	1	b	2	Proficient	2
14	F	3	d	1	Basic	1
15	B	4	e	2	Advanced	3
16	G	2	a	2	Proficient	2
17	A	1	d	1	Basic	1
18	H	4	b	2	Advanced	3
19	D	5	b	2	Proficient	2
20	H	2	c	2	Advanced	3
21	D	1	i	1	Basic	1
22	J	4	a	1	Proficient	1
23	C	2	b	2	Proficient	2
24	J	3	b	3	Proficient	1
25	B	1	b	2	Advanced	3
26	G	3	a	3	Basic	2
27	A	5	a	2	Basic	1
28	G	3	e	2	Proficient	2
29	C	1	e	2	Proficient	2
30	J	4	b	2	Advanced	2
31	A	2	e	2	Advanced	3
32	G	1	c	2	Proficient	2
33	D	2	c	2	Advanced	3
34	G	1	e	2	Proficient	2
35	B	2	e	2	Proficient	2
36	G	5	c	3	Proficient	3
37	C	1	j	2	Proficient	2
38	J	5	b	2	Proficient	2
39	A	4	f	1	Basic	1
40	F	4	c	1	Proficient	1
41	A	2	b	2	Proficient	2
42	J	5	c	3	Advanced	3
43	A	2	d	1	Proficient	1
44	H	4	a	1	Proficient	1
45	A	1	f	2	Proficient	2
46	J	1	a	1	Proficient	1
47	A	3	a	3	Advanced	3
48	H	5	a	2	Proficient	2
49	C	2	b	2	Proficient	2
50	F	4	g	1	Proficient	1
51	D	1	c	2	Proficient	1
52	J	4	d	2	Proficient	2
53	C	3	d	1	Proficient	1
54	F	1	g	2	Proficient	2
55	C	1	k	2	Proficient	2
56	G	1	d	1	Basic	1
57	B	5	a	2	Proficient	2
58	F	3	b	3	Proficient	3
59	A	5	c	3	Advanced	3
60	J	3	d	1	Basic	1