Name: _____ Teacher: _____

Period: _____

Grade 6 Math

2014 Fall Semester Exam

Westview Middle School

1. A firefighter uses equipment that weighs 60 pounds. The firefighter weighs *x* pounds. Which equation can be used to find *t*, the total weight of both the firefighter and his equipment in pounds?

   A. $t = 60x$

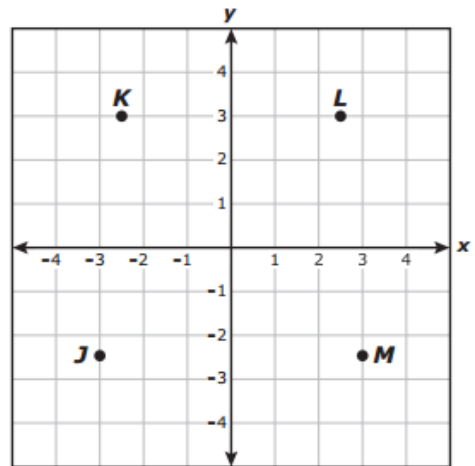   B. $t = x + 50$

   C. $t = 60 + x$

   D. $t = x - 60$

2. Which of these can be written as an equation?

   A. Two times 0.75 plus *m*

   B. Three is less than twice *a*

   C. Half the product of five and *j*

   D. Four times *n* is 24

3. The sum of the measures of two angles is 183.6°. One angle has a measure of 54°. What is *m*, the measure in degrees of the second angle?

   A. *m* = 129.6°

   B. *m* = 3.4°

   C. *m* = 9,914.4°

   D. *m* = 237.6°

4. The coordinate grid shows points *J, K, L,* and *M*.

   Which point best represents the ordered pair $(-2\frac{1}{2}, 3)$?

   A. Point *J*

   B. Point *K*

   C. Point *L*

   D. Point *M*

5. A store manager analyzed the change in sales of various products from last month to this month. The percent increases and decreases in sales are shown in the table.
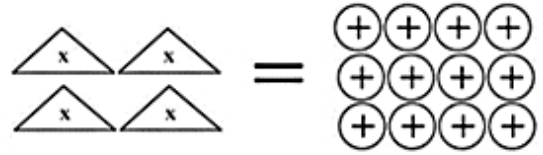
Changes in Sales

Product	Change in Sales (%)
Watches	−0.3
Ties	3
Shoes	2.91
Shirts	−0.9
Pants	−1.01

These values will be ordered from greatest to least. Which list of the products matches this order?

A. Pants, shirts, watches, shoes, ties

B. Ties, shoes, watches, shirts, pants

C. Watches, shirts, pants, shoes, ties

D. Ties, shoes, pants, shirts, watches

6. The model $4x = 12$ is represented below.

What is the value of x?

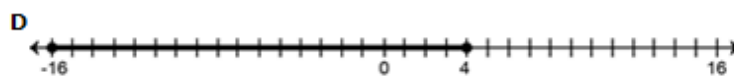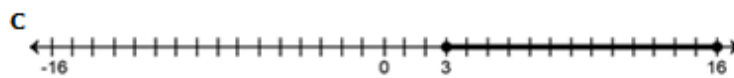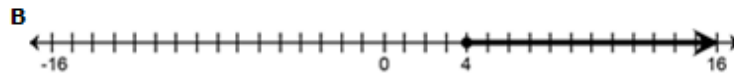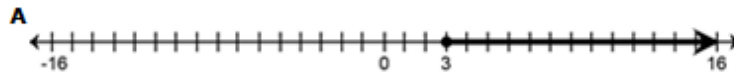A. $x = 3$

B. $x = 4$

C. $x = 2$

D. $x = 1$

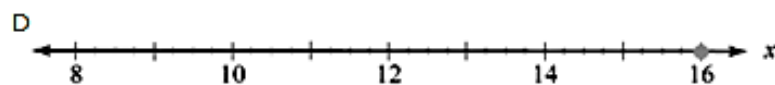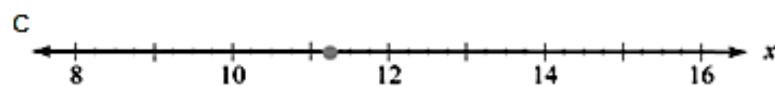7. What is the value of k in the equation below?

$$49.17 + k = 92.05$$

A. 42.88
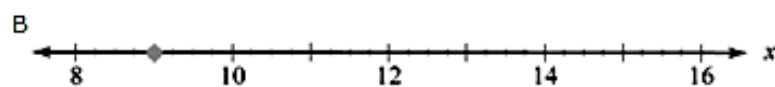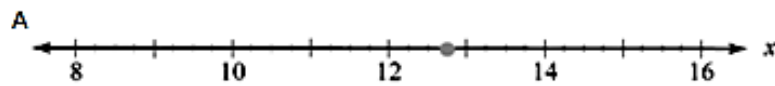
B. 43.12

C. 43.88

D. 57.12

8. Which number line below would solve the following inequality?

$$4b \leq 16$$

A

B

C

D

9. Which number line shows the solution to the equation $\frac{3}{4}x = 12$

A

B

C

D

10. In drafting class Monica cut a piece of wood shaped like the figure shown below.
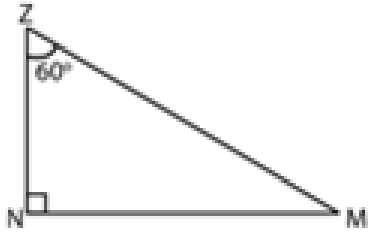
What is the measure of angle *m* in the figure above?

A. 30˚

B. 60˚

C. 90˚

D. 120˚

11. Which of the following is true about **all** triangles?

A. They have three congruent sides

B. They have at least one right angles

C. They have three sides and three angles

D. They have three congruent angles.

12. Etna is building triangles with different lengths of centimeter rods. She has two rods measuring 4 cm and 8 cm. Which of the following would **NOT** form a triangle if she laid them end to end?

A. 3 cm

B. 6 cm

C. 8 cm

D. 10 cm

13. Raven usually does 5 out of every 7 math problems correctly. Which table accurately shows how many math problems she will do correctly out of 14, 21, or 28 total problems?

A

Total Number of Problems	Number of Correct Problems
7	5
14	7
21	9
28	11

B

Total Number of Problems	Number of Correct Problems
7	7
14	14
21	21
28	28

C

Total Number of Problems	Number of Correct Problems
7	5
14	12
21	19
28	26

D

Total Number of Problems	Number of Correct Problems
7	5
14	10
21	15
28	20

14. Hannah was 4 years old when Cole was born. The table below shows the difference in their ages. Which of the following equation describes the relationship of Cole's age in terms of Hannah's age?

Cole's Age	0	1	2	3
Hannah's Age	4	5	6	7

A. $y = 4x$

B. $y = x - 4$

C. $y = x + 4$

D. $y = \dfrac{x}{4}$

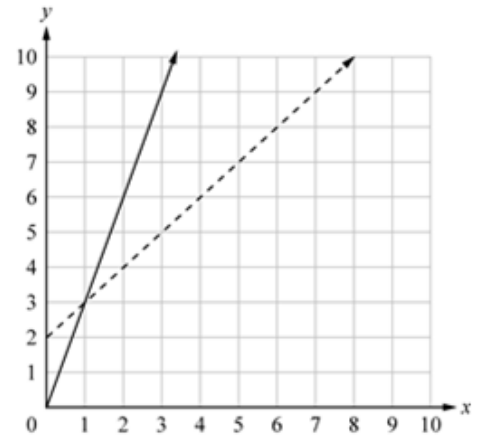15. The tables below each represent a different rule. Which table represents an additive rule?

Table 1	
x	*y*
1	4
2	5
3	6
4	7

Table 2	
x	*y*
1	4
2	8
3	12
4	16

A. Table 1, because *y* = *x* + 3

B. Table 1, because *y* = *x* + 4

C. Table 2, because *y* = *x* + 3

D. Table 2, because *y* = *x* + 4

16. The lines on the coordinate grid below each represent a different relation between *x* and *y*.

Which line represents an additive relationship?

A. The solid line, because y = x + 3

B. The dashed line, because y = x + 2

C. The solid line, because y = 3x

D. The dashed line, because y = 2x

17. Which of the following does **NOT** represent a multiplicative relationship?

A. 3 + *x* = *y*

B. $y = \frac{1}{2}x$

C. 5*x* = *y*

D. *y* = 6*x*

18. The table below represents the relationship between the number of gallons of gas in a gas tank and the number of miles that can be driven.

Gas in Tank (gallons)	Miles that Can Be Driven
0	0
1	30
2	60
3	90
4	120
5	150

Which quantity represents the dependent quantity in this table?

A. Gallons of gas in tank

B. Miles that can be driven

C. Miles per gallon

D. Price per gallon

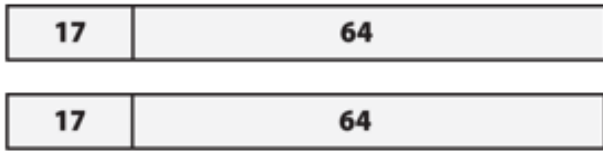19. Callie measured how many inches her sunflower plant grew every week and recorded the plant growth on the table below.

Weeks	Height (inches)
1	2
2	5
3	8
4	11
5	14

Based on the information in the table, which of the following is the independent variable?

A. Plant Growth

B. Sunflower Plant

C. Height

D. Weeks

20. Which expression is equivalent to the pictorial model?

17	64

17	64

A. 17 + 64

B. 2 + 17 + 64

C. 2(17 • 64)

D. 2(17 + 64)

21. Which pictorial model is equivalent to the expression 4(5 + 2) ?

A

5	2
5	2
5	2
5	2

B

4	5	2

C

5	2	5	2

D

4	5	2
4	5	2
4	5	2
4	5	2