Name: _____ **Class:** _____ **Date:** _____ **ID: B**

Chapter 1 Test - Algebra 2 - Mr. Lee

Matching

Match each vocabulary term with its definition.

a. boundary line
b. absolute value
c. absolute-value function
d. conjunction
e. disjunction
f. correlation
g. regression

____ 1. the distance from a number to zero on the number line

Multiple Choice

Identify the choice that best completes the statement or answers the question.

____ 2. Find the additive and multiplicative inverse of $-\frac{2}{5}$.

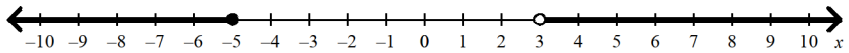
a. additive inverse: $\frac{2}{5}$;
multiplicative inverse: $-\frac{5}{2}$

b. additive inverse: $\frac{7}{5}$;
multiplicative inverse: 0

c. additive inverse: $-\frac{5}{2}$;
multiplicative inverse: $\frac{2}{5}$

d. additive inverse: $\frac{5}{2}$;
multiplicative inverse: $-\frac{5}{2}$

____ 3. Write the compound inequality shown by the graph.



a. $x \le 3$ AND $x > -5$
b. $x < -5$ OR $x > 3$
c. $x \le -5$ AND $x > 3$
d. $x \le -5$ OR $x > 3$

____ 4. Evaluate $k(4r^2 + 2r)$ for $k(x) = -3x + 3r$.

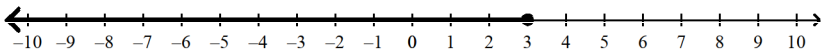
a. $-12r^2 + 6r$
b. $4r^2 + 5r$
c. $-12r^2 - 3r$
d. $4r^2 + 6r$

____ 5. For $f(x) = 9x - 12$, evaluate $f(-3)$.

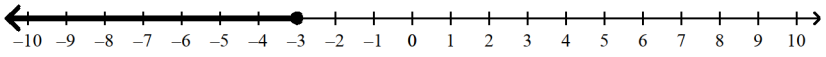
a. –135
b. 15
c. –39
d. –48

____ 6. Solve the inequality and graph the solution.
$-3x + 2.5x \le 1.5(x + 4)$

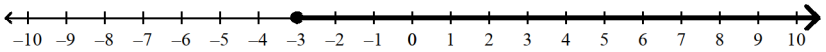
a. $x \le 3$



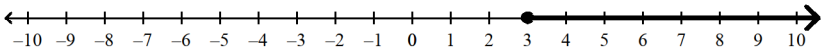
b. $x \le -3$



c. $x \ge -3$



d. $x \ge 3$



____ 7. Order the numbers $4, -\frac{3}{8}, \sqrt{2}, 0.7654, 2\pi$ from least to greatest.

a. $2\pi, 4, \sqrt{2}, 0.7654, -\frac{3}{8}$

b. $-\frac{3}{8}, 0.7654, \sqrt{2}, 4, 2\pi$

c. $-\frac{3}{8}, 0.7654, \sqrt{2}, 2\pi, 4$

d. $4, -\frac{3}{8}, \sqrt{2}, 0.7654, 2\pi$

____ 8. Solve $4d + 12 = 38 - 27d$.

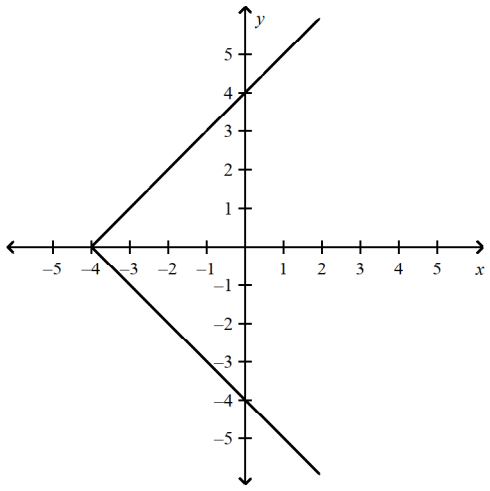
a. $d = 1$

b. $d = 1\frac{3}{23}$

c. $d = \frac{26}{31}$

d. $d = -1\frac{19}{31}$

____ 9. Use the vertical-line test to determine whether the relation is a function. If not, identify two points a vertical line would pass through.



a. No, the relation is not a function.
(0, 4) and (0, –4)

b. Yes, the relation is a function.

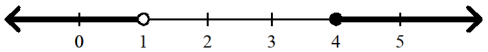
____ 10. Use interval notation to represent the set of numbers $-5 < x < 0$.

a. $(-5, 0)$
b. $\{-5, 0\}$
c. $[0, -5)$
d. $[-5, 0]$

____ 11. Solve and graph the solutions of the compound inequality $1 < 3x - 2 \leq 10$.

a. $1 \leq x$ AND $x \leq 4$

b. $1 > x$ AND $x \geq 4$



c. $1 < x$ AND $x \leq 4$

d. $1 < x$ AND $x < 4$

____ 12. Give the domain and range of the relation.

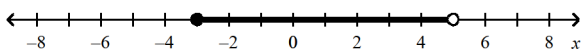
x	*y*
2	5
7	15
0	0
–8	–15

a. D: {–8, 0, 2, 7}; R: {–15, 0, 5, 15}
b. D: {–15, 0, 5, 15}; R: {–8, 0, 2, 7}
c. D: {–8, 2, 7}; R: {–15, 5, 15}
d. D: {2, 7, –8, 5, 15, –15}; R: {0}

____ 13. Which example shows that the Associative Property does not hold for division?

a. $(24 \div 3) \div 2 \neq 24 \div (3 \div 2)$
b. $(48 - 12) - 4 \neq 48 - (12 - 4)$
c. $18 \div (3 \div 6) \neq 18 \div (6 \div 3)$
d. $81 \div 3 \div 3 \neq 81 \div (3 \div 3)$

____ 14. Write the set in set-builder notation.



a. $[-3, 5]$
b. $\{x | -3 < x < 5\}$
c. $[-3, 5)$
d. $\{x | -3 \leq x < 5\}$

____ 15. Evaluate $2 + x - 5 \bullet 3$ for $x = 9$.

a. –4
b. –20
c. 14
d. 18

____ 16. Determine whether the relation is a function.

Antonio's age (years)	11	12	13	14	15	16
Antonio's height (inches)	58	59	60	65	67	67

a. No, the relation is not a function.
b. Yes, the relation is a function.

____ 17. Solve $6(32 - 8y) = 96$.

a. $y = 12$
b. $y = -6$
c. $y = -8$
d. $y = 2$

____ 18. Solve the equation $2|x - 8| = 6$.

a. $x = 11$
b. $x = 14$ or $x = 2$
c. $x = 14$
d. $x = 11$ or $x = 5$

____ 19. Identify the property demonstrated by the equation $12 + 8 = 8 + 12$.

a. Commutative Property
b. Closure Property
c. Distributive Property
d. Associative Property

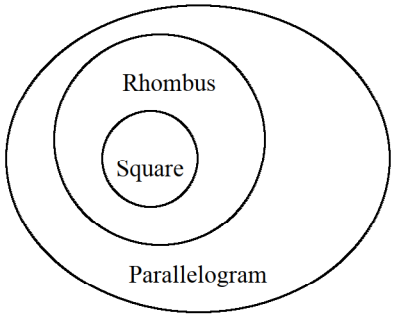
____ 20. Which of the following is a solution of $x - 9 < -2$ AND $x + 6 \geq -2$?

a. 9
b. 5
c. –9
d. 7

____ 21. Solve $5j - 12 + 13j = -4 + 18j - 8$.

a. $j = 0$
b. The solution set is all real numbers, or $\mathbb{R}$.
c. The solution set is the empty set.
d. $j = -12$

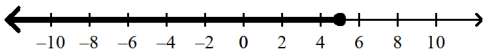
____ 22. What statement can be determined from the diagram?



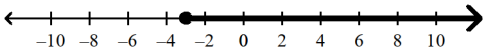
a. No parallelogram is a rhombus.
b. No parallelogram is a square.
c. Every rhombus is a square.
d. Every square is a rhombus.

____ 23. Solve the inequality $2m + 4 - 3m \geq -1$ and graph the solutions.

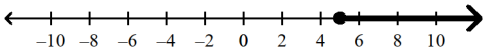
a. $m \leq 5$



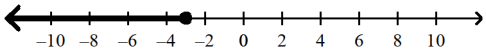
b. $m \geq -3$



c. $m \geq 5$

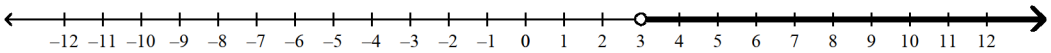


d. $m \leq -3$

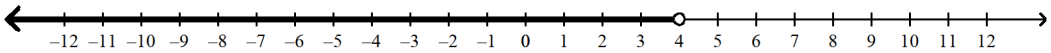


____ 24. Solve and graph $6x < 3x + 12$.

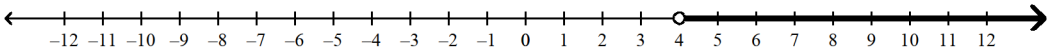
a. $x > 3$



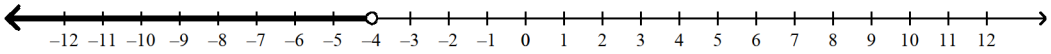
b. $x < 4$



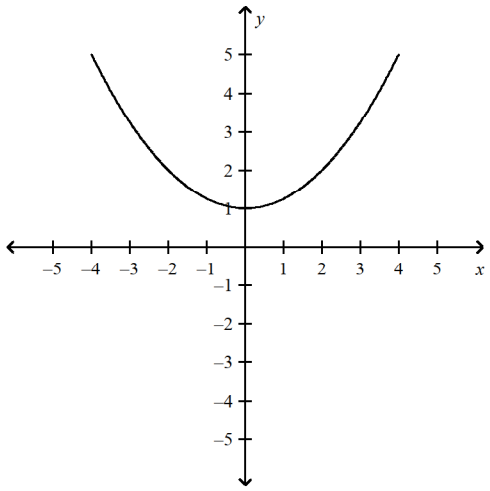
c. $x > 4$



d. $x < -4$



____ 25. Which is an element of the range of the graphed function?



a. –1
b. –2
c. 2
d. 0