Name: _____

Date: _____ Grade: _____

Intermediate Math Skills

CHAPTER 5 TEST

Congratulations on completing this chapter! ***Answer the following questions to test your understanding of the material. When you finish, hand in your test to your teacher for a final grade. Each answer is worth 1.7 points.***

Determine the domain and range of the following relation defined by the sets of ordered pairs.
{(3, 4), (4, 5), (2, 2), (6, 8)}

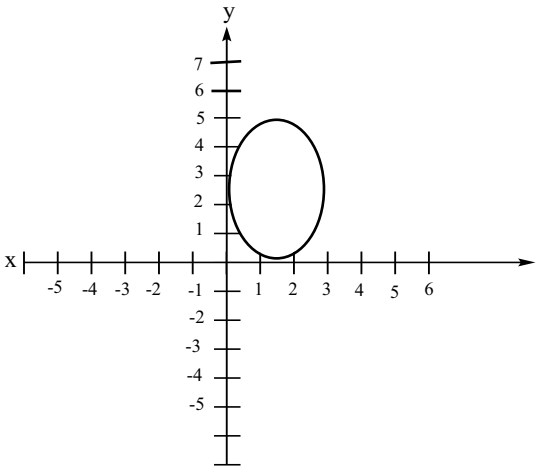
1. D: _____

2. R: _____

Determine the domain and range of the following graphs.

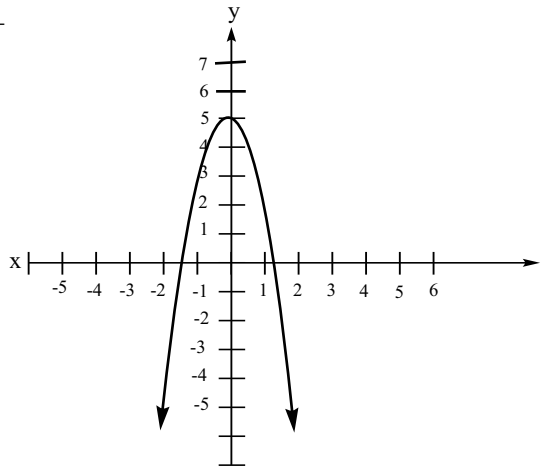
3. Domain, D: _____

4. Range, R: _____



5. Domain:, D: _____

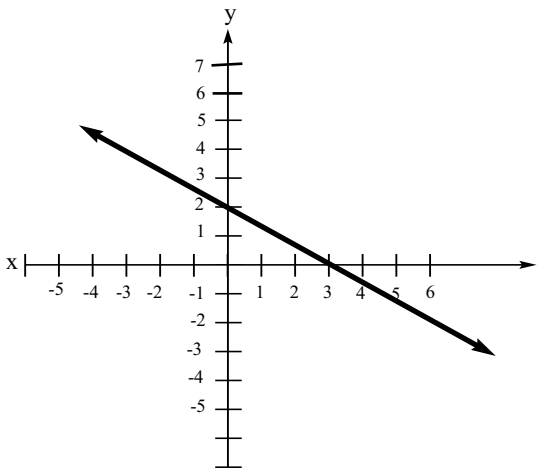
6. Range, R: _____



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7. Domain:, D: _____

8. Range, R: _____

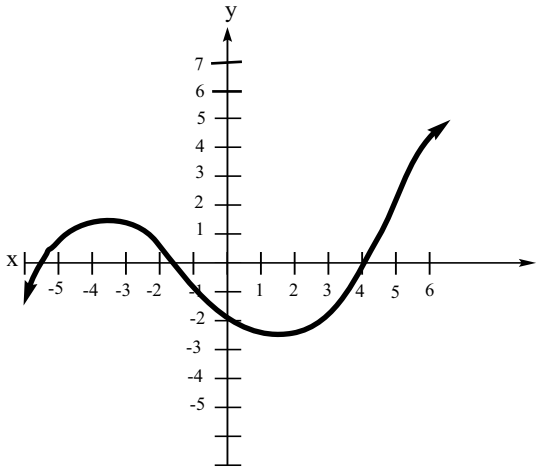


Determine if the following are representative of a function. Use the Vertical Line Test or the fact that the abscissas must be different to make your decision. Write "function" or "not a function" on each blank.

9. {(5, 8), (2, 4), (5, 6), (5, 2)} _____

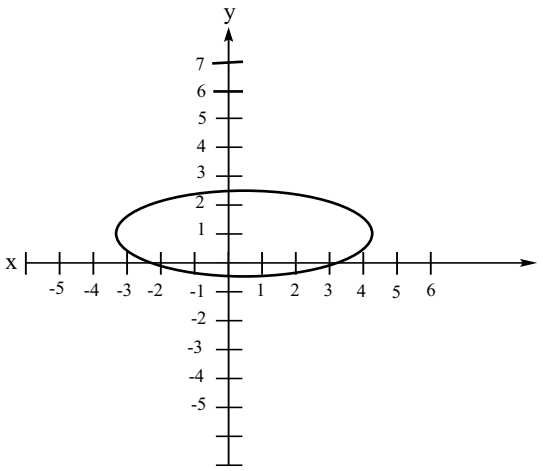
10. {(2, 12), (7, 14), (5, 19), (6, 13), (1, 26)} _____

11. _____



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12. _____



Calculate the values of *y* in each equation by using the values of *x* = -1, 0, 1, 2, 3, 4. Show your work and write your answers on the blanks as ordered pairs.

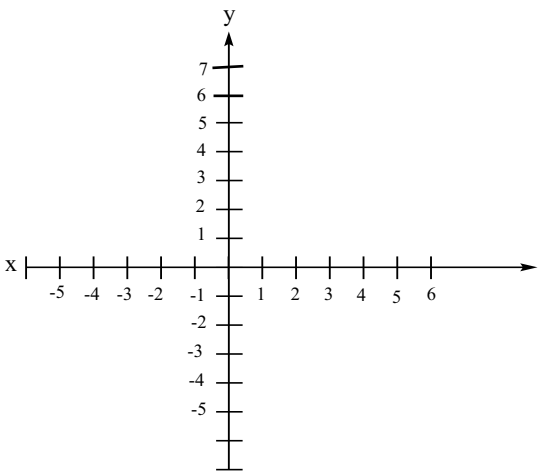
13. $y = x + 9$ _____

14. $y = 4x - 8$ _____

15. $y = 20x$ _____

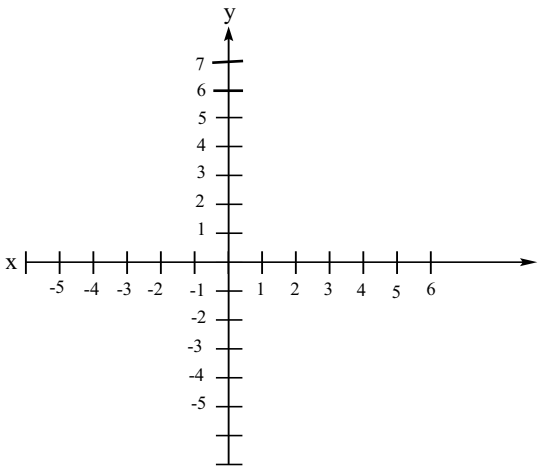
Graph the following functions on the Cartesian coordinate plane. Remember to substitute values of *x* into the equations and calculate *y*. (The easiest and most used values are: *x* = -2, -1, 0, 1, 2, 3. You may use other values if you wish.)

16. $y = x - 2$

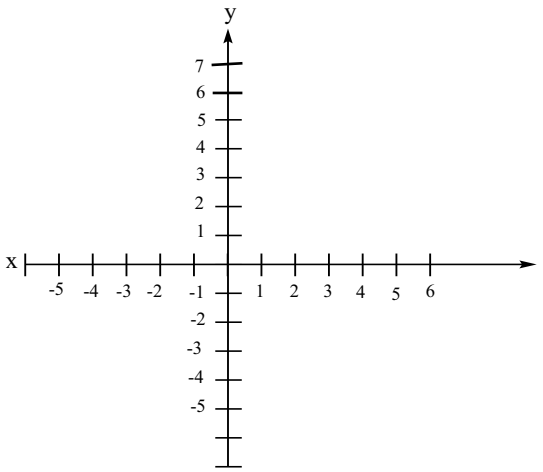


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17. $y = 2x$



18. $y = -x + 2$



Determine a possible solution to the following problems involving ordered triplets. Show your work and place your answer on each blank as an ordered triplet.

19. $300 = x \bullet y \bullet z$ _____

20. Johnny needs a box that is 4 inches in height and 9 inches wide. Determine the length of the box, if the box needs to contain a volume of 360 cubic inches. Write the answer as an ordered triplet: (l, h, w).

_____

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Identify each of the following polynomials by writing its mathematical name (monomial, binomial, trinomial, polynomial of four terms, etc.) on the blank.

21. $2x - 5y + 27z$ _____

22. $a + 2b + 3c - 4d + 5e - 9f + 11g - h + 45$_____

23. $5x^2y^3z$ _____

24. $5x^2 - 5y^2$ _____

Add the following polynomials. Show your work and write your answers on the blanks.

25. $(5x + 11) + (2x + 5) =$ _____

26. $(7x + 4) + (3x + 15) =$ _____

Add the following binomials and trinomials. Show your work and write your answers on the blanks.

27. $(9x - 3) + (x - 2y + 8) =$ _____

28. $(21x + 4) + (20x + 9y - 10) =$ _____

29. $0x + 0y + z =$ _____

30. $(7a + 6b - 5c) + (2a - 3b + 9c) =$ _____

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Simplify the following algebraic expressions. Show your work and write your answer on the blank.

31. $4(x + 3)$ _____

32. $5(3x + 4)$ _____

Simplify the following fractions.

33. $\frac{2(x+3)}{5(x-1)}$

34. $\frac{2[2(x-1)+3]}{3[3(x-2)+4]}$

Subtract the following binomials and trinomials. Show your work and write the answer on the blank.

35. $(91a + 20b) - (83a + 16b)$ = _____

36. $(6x + 8) - (2x + 5y + 2)$ = _____

37. $(5x^2 + 2x + 4) - (3x^2 + x + 4)$ = _____

38. $(25x - 10y - 17) - (15x - 5y - 18)$ = _____

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Work the following polynomials.

39. $(5a + 2b + 2c + 2d) + (3a + 2b + 3c + d) =$ _____

40. $(8x^3 + 4x^2 + 3x - 1) - (6x^3 + 2x^2 - 2x + 1) =$ _____

Choose the best meaning for each Life Principle and write the letter of the response on the blank.

41. *"The key to a person's dreams lies within."* _____

(a) Deep within each of us is a set of keys.
(b) You have the ability to fulfill your own dreams.
(c) What lies within us is mostly dreams.
(d) Dreamers are usually locksmiths.

42. *"The reputation of a thousand years may be determined by the conduct of one hour."* _____

(a) We only have one hour to establish our reputations.
(b) Reputations are easy to establish and maintain.
(c) It takes a thousand years to have a really good reputation.
(d) My action right now may establish my reputation for many years to come.

43. *"All glory comes from daring to begin."* _____

(a) All beginnings are glorious.
(b) Glory only has to do with the beginning of an event.
(c) There is no glory if we never start.
(d) Daring brings glory and praise from others.

44. *"I am convinced that life is 10 percent what happens to me and 90 percent how I react to it."* _____

(a) Some people think life is 100 percent.
(b) What happens in life is not as important as my response to the things that happen.
(c) Life is mostly just reaction.
(d) My life needs to be more reaction and less happening.

45. *"He who is caught in a lie is not believed when he tells the truth."* _____

(a) It is difficult for a liar to be truthful.
(b) It does not matter if we tell a lie or the truth.
(c) Liars are not trusted even when they don't lie.
(d) People would rather hear lies.

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