

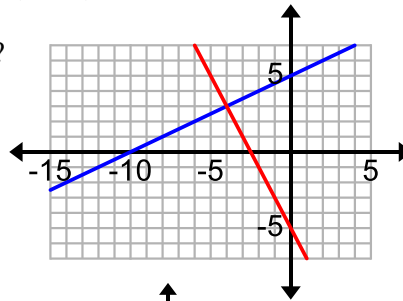
**Math 1 – Final Practice Test 2**

1. Which of the following points represents a solution to the equation  $y = 5x - 8$ ?

- a. (0, -5)      b. (1, -3)      c. (2, 5)      d. (-1, -6)

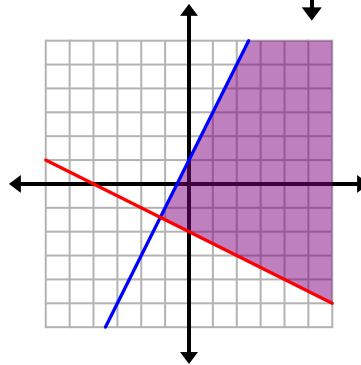
2. What is the solution of the system of equations graphed?

- a. (-10, 0)                      b. (0, 5)  
 c. (3, -4)                        d. (-4, 3)



3. Find the system of inequalities graphed on this graph.

- a.  $y < 2x + 1, y > -\frac{1}{2}x - 2$   
 b.  $y \leq -\frac{1}{2}x + 1, y \geq 2x - 2$   
 c.  $y < -2x - 1, y > \frac{1}{2}x + 2$   
 d.  $y \leq 2x + 1, y \geq -\frac{1}{2}x - 2$



4. Which of the following would be a solution to the graph in #3?

- a. (-2, 3)      b. (0, -4)      c. (3, 1)      d. (-6, 1)

5. Which of the following sets of data represents a function?

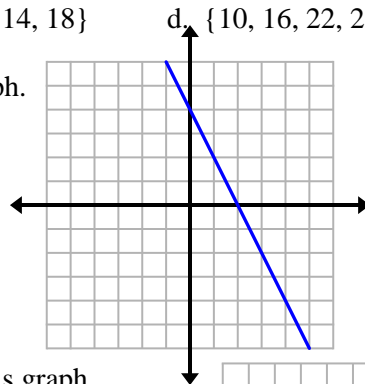
- a.  $\{(2, -3), (4, 6), (6, -3)\}$                       b.  $\{(2, 1), (2, 2), (3, 4)\}$   
 c.  $\{(-3, 2), (6, 4), (-3, 1)\}$                       d.  $\{(5, 5), (5, 6), (5, 7)\}$

6. Write the first four terms for the sequence of this function:  $y = 6x + 4$ .

- a.  $\{4, 10, 16, 22\}$       b.  $\{4, 6, 10, 16\}$       c.  $\{6, 10, 14, 18\}$       d.  $\{10, 16, 22, 28\}$

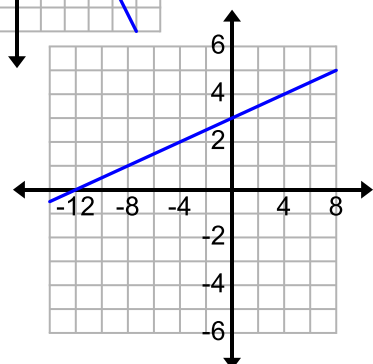
7. Using the slope and the y-intercept, find the function of this graph.

- a.  $f(x) = 2x + 4$                       b.  $f(x) = -2x + 4$   
 c.  $f(x) = \frac{1}{2}x + 2$                       d.  $f(x) = -\frac{1}{2}x + 2$



8. Using the x-intercept and the y-intercept, find the equation of this graph.

- a.  $-x + 4y = 12$                       b.  $4x - y = 12$   
 c.  $x - 4y = 12$                         d.  $-4x + y = 12$



9. You have 2 dimes, then you find 8 dimes on day 1, 32 dimes on day 2, 128 dimes on day 3, and so on. If this continues in the same pattern, what is the equation that represents the situation?

- a.  $f(x) = 4 \cdot 2^x$       b.  $f(x) = 2 \cdot 4^x$       c.  $f(x) = 4 \cdot 2^{x-1}$       d.  $f(x) = 2 \cdot 4^{x-1}$

10. If  $f(x) = 5x - 3$  and  $g(x) = 2x + 8$ , find  $(f - g)(x)$ .

- a.  $7x + 5$       b.  $3x + 11$       c.  $-3x + 5$       d.  $3x - 11$

11. If  $f(x) = 5x + 1$  and  $g(x) = 3x - 2$ , find  $(f \circ g)(x)$ .

- a.  $15x + 1$       b.  $8x - 1$       c.  $15x - 9$       d.  $2x + 3$

12. On day 0, your bank account has \$4. Every day after that it increases by \$0.25. Choose the correct explicit formula.

- a.  $f(x) = 4 + 0.25x$       b.  $f(x) = 4 + 0.25(x - 1)$       c.  $f(x) = 0.25 + 4x$       d.  $f(x) = 0.25 + 4(x - 1)$

13. What kind of sequence is represented by  $\{6, 12, 18, 24, \dots\}$ ?

- a. arithmetic      b. geometric      c. exponential      d. neither

14. If the parent graph is  $y = 3^x$  how would the graph of  $y = 3^x + 4$  be transformed?

- a. 4 units to the right      b. 4 units to the left  
c. 4 units up      d. 4 units down

15. For the sequence:



- a.  $y = x + 3$   
b.  $y = 3x$   
c.  $y = 3x + 1$   
d.  $y = 3x - 1$

16. If this represents exponential growth, the value of  $x$  would be what number:

- a.  $x = 343$       b.  $x = 21$   
c.  $x = 56$       d.  $x = 2401$

x	y
1	7
2	49
3	x

17. Write a recursive formula for the sequence: 81, 27, 9, ...

a.  $a_1 = 81, a_n = \frac{1}{3}a_{n-1}$

b.  $a_1 = 81, a_n = 3a_{n-1}$

c.  $a_1 = 81, a_n = 81a_{n-1}$

d.  $a_1 = 81, a_n = \frac{1}{81}a_{n-1}$

18. Susan invests some money and earns 12% each day. Bill invests some money and earns \$12 each day. What is true about these investments.

a. Susan's represents an exponential function, Bill's represents an exponential function.

b. Susan's represents an exponential function, Bill's represents a linear function.

c. Susan's represents a linear function, Bill's represents an exponential function.

d. Susan's represents a linear function, Bill's represents a linear function.

19. In solving this equation, at what step was there a mistake made:

a.  $6(x - 2) = 30$

b.  $6x + 12 = 30$

c.  $6x = 18$

d.  $x = 3$

20. What would be the first step to solve this equation?  $-2 = \frac{10+x}{32}$

a. add 2 to both sides

b. multiply both sides by 10

c. multiply both sides by 32

d. subtract 10 from both sides

21. Solve  $3 - |-4n| = -17$

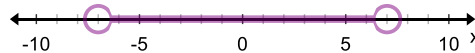
a.  $n = -5$

b.  $n = 5$

c.  $n = -5, 5$

d.  $n = -5, 10$

22. What inequality is graphed?



a.  $|x| \geq -7$

b.  $|x| > 7$

c.  $|x| \leq 7$

d.  $|x| < 7$

23. Solve the formula for h:  $A = \frac{(a+b)h}{2}$

a.  $h = \frac{2A}{(a+b)}$

b.  $h = \frac{2(a+b)}{A}$

c.  $h = \frac{A}{2(a+b)}$

d.  $2A = bh$

24. Solve:  $4^{5n} = 16$

a.  $n = 2$

b.  $n = \frac{2}{5}$

c.  $n = \frac{5}{2}$

d.  $n = -2$

25. Solve the system of equations:  $4x - 3y = 22$   
 $x + 3y = 13$

a. (2, 7)

b. (-2, -7)

c. (-7, -2)

d. (7, 2)

26. Adult tickets for the school musical sold for \$7 and student tickets sold for \$4. One hundred forty-two tickets were sold for \$709. How many of each kind of ticket were sold?

- a. 105 adults and 47 students
- c. 95 adults and 47 students

- b. 47 adults and 95 students
- d. 95 adults and 105 students

For question 27 – 30, use a calculator and the data from the table of test scores of these 9 math students to answer the questions.

27. Find the mean.

- a. 10.14
- b. 37
- c. 10.41
- d. 85.6

Score	Frequency
70	1
75	1
80	1
85	111
90	1
95	
100	11

28. Find the standard deviation. Round to the nearest tenth if necessary.

- a. 10.1
- b. 10.14
- c. 85.6
- d. 35

29. What is the range of the data?

- a. 10.1
- b. 30
- c. 85.6
- d. 35

30. Classify the data in the table.

- a. Skewed left
- b. Uniform
- c. Skewed right
- d. Symmetrical

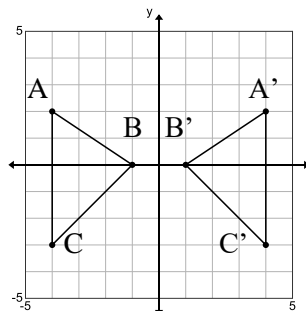
31. Find the best equation (linear or exponential) for the temperature of a cup of hot herbal tea.

- a.  $y = 286.3(0.19)^x$
- b.  $y = 286.3x - 5.95$
- c.  $y = 286.3(0.91)^x$
- d.  $y = -5.95x + 286.3$

Time (min.)	Temp. °F
1	261
9	123
14	76
21	40
31	15
39	7
44	5

32. If A (-4, 2), B (-1, 0) and C (-4, -3), what type of transformation is represented in the graph?

- a. reflection
- b. translation
- c. rotation
- d. dilation



33. If a parallelogram is reflected across the y-axis, and then across the x-axis, what ONE transformation would produce the same results as this double reflection?

- a. reflection                      b. translation                      c. rotation                      d. dilation

34. What can you know for certain about a pre-image and its image if the image is obtained from the pre-image by a series of rigid motion transformations and a dilation?

- a. they are congruent      b. they are opposites      c. they are solid                      d. they are similar

35. Which of the following corresponding parts of a triangle would be enough information to prove that the two triangles are congruent?

- a. two corresponding sides and the non-included angle are congruent  
b. all three corresponding angles are congruent  
c. two corresponding sides and the included angle are congruent  
d. the ratios of all three corresponding sides are in a 3:1 proportion from one triangle to the other

36. Which of the following linear equations would be parallel to the equation  $3x + y = 5$ ?

- a.  $y = -3x - 6$       b.  $3x - y = 5$       c.  $y = 3x + 6$       d.  $3x - y = -5$

37. Which of the following linear equations would be perpendicular to the equation  $3x + y = 5$ ?

- a.  $y = -3x - 6$       b.  $\frac{1}{3}x - y = 5$       c.  $y = 3x + 6$       d.  $\frac{1}{3}x + y = -5$

**Given the triangle X (-2, 3), Y (3, 0), and Z (-2, -4) answer questions 38-40.**

38. What is the length of  $\overline{YZ}$  ?

- a. 41 units      b. 6.4 units      c. 4.1 units      d. 5 units

39. What is the perimeter of the triangle

- a. 19.2 units      b. 17.2 units      c. 29.2 units      d. 27.2 units

40. What is the area of the triangle?

- a. 19.2 units squared      b. 17.5 units squared      c. 29.5 units squared      d. 17.2 units squared

