Equations and Inequalities

Name_____

1. The larger root of the equation $(x + 4)(x - 3) = 0$ is

   [1] -4 [2] -3 [3] 3 [4] 4

2. If $12x = 4(x + 3)$ then x equals

   [1] 1.5 [2] 3/8 [3] 5 [4] 12/11

3. If you multiply an inequality by a negative number, when should you reverse the inequality's symbol?

   [1] Always [2] Never [3] Sometimes [4] Only if the negative number is a fraction

4. Which set of points is in the solution set for the system of inequalities: $x - y > 1$ and $y < 2x - 1$.

   [1] (-1, -1) [2] (-2, -1) [3] (0, 1) [4] (0, -2)

5. Solve for c: $5c - 4 - 2c + 1 = 8c + 2$

   [1] 1 [2] 2 [3] -1 [4] -2

6. Solve: $2x - 5 > x - 2$

   [1] $x < 3$ [2] $x > 3$ [3] $x < -5$ [4] $x > -2$

7. Solve for y: $y^2 - 81 = 0$

   [1] {-1, 1} [2] {9} [3] {-9, 9} [4] {81}

8. Solve for m: $8(m + 5) = 16$

   [1] 11/8 [2] -11/8 [3] 3 [4] -3

9. Solve for x: $0.7x + 2(x - 3) = 0.2x + 3$

   [1] 2.5 [2] 3.5 [3] 3.6 [4] 4.5

10. Solve for y: $xy - d = m$

    [1] $y = \frac{m+d}{x}$ [2] $y = \frac{m-d}{x}$ [3] $y = m + d - x$ [4] $xy = m + d$

11. Solve for a: $a^2 = 36$

    [1] {6} [2] {-6} [3] {-6, 6} [4] {4, 9}

1._____
2._____
3._____
4._____
5._____
6._____
7._____
8._____
9._____
10._____
11._____

12. Which point is a solution to this linear quadratic system? $y = x^2 + 4x + 3$ and $y = 2x + 6$

[1] (-3,0) [2] (1,-8) [3] (3,0) [4] (0,-3)

12._____

13. Given $y = 3^{x,}$ evaluate y when $x = 3$.

[1] 3 [2] 9 [3] 27 [4] 81

13._____

14. The graph of $y = 2^x$ contains which of these points?

[1] (0,0) [2] (0,1) [3] (0,2) [4] (1,1)

14._____

15. Which value of x is in the solution set of the inequality: $-2x + 5 > 17$?

[1] -8 [2] -6 [3] -4 [4] 12

15._____

16. Solve for x: $\frac{x-2}{x-1} = \frac{x+4}{2x+2}$

[1] {0} [2] {5} [3] {0,-5} [4] {0,5}

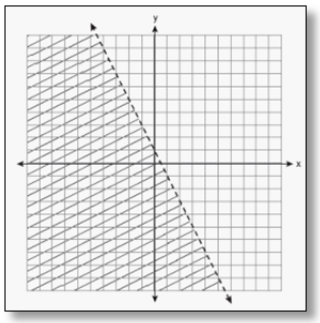
16._____

17. Solve for y: $2y^2 + 4 = 9y$

[1] {2, 4} [2] {1/2, 2} [3] {2, 2} [4] {1/2, 4}

17._____

18. Which inequality is represented by the graph at the right?



[1] $y < 2x + 1$ [2] $y < -2x + 1$

[3] $y < \frac{1}{2}x + 1$ [4] $y < -\frac{1}{2}x + 1$

18._____

19. The graph of $y = 2^x$ lies in which Quadrants?

[1] I, II [2] I, III [3] I, IV [4] II, III

19._____

20. Lightning quickly heats the air causing it to expand, which produces the sound of thunder. Sound travels approximately 1 mile in 5 seconds. Knowing $D = r \bullet t$ (where D = distance, r = rate, and t = time), how far away is a thunderstorm when you notice a 3-second delay between the flash of lightning and the sound of thunder?

[1] 1 mile away [2] 1/2 mile away [3] 3/5 mile away [4] 1/5 mile away

20._____