NAME: _____ HW 3.1 – GRAPHING LINEAR EQUATIONS

DATE: _____ ALGEBRA

1. If the y-coordinate is -1 in the equation $4x - y = 9$, what is the x-coordinate?

2. If the x-coordinate is -2 in the equation $2x + 3y = -10$, what is the y-coordinate?

3. What is the x-coordinate of every point on the y-axis?

4. What is the y-coordinate of every point on the x-axis?

5 – 10 Determine whether or not each equation is a linear equation. Justify your reasoning.

5. $4x - 3y = 16$

6. $y = x^2 + 8$

7. $xy = 20$

8. $2y - 4x = 0$

9. $3y - 2x - 6 = 0$

10. $\frac{1}{2}x = y + 5$

11 – 14 Find the x and y intercepts for the linear equations.

11. $2x + 3y = 18$

12. $5x - 2y - 30 = 0$

13. $5y = 9x$

14. $3x - 6y = 12$

15. Which of the three given points, if any, lie on the given line?
$2x - y = 8$ $(4, 0), (1, -7), (-2, -12)$

16 – 19 Find the unknown coordinate of the point on the given line.

16. $x + y = 5$ $(x, 4)$

17. $x - 2y = 8$ $(6, y)$

18. $3y - 1 = x$ $(-3, y)$

19. $3x + 7 = 5y$ $(x, 5)$

20 – 23 State whether the given line passes through the given point. Show your work.

20. $2y + x = 7$ $(1, 3)$

21. $4x + y = 10$ $(2, -2)$

22. $2y = 3x - 5$ $(-1, -4)$

23. $y = -2x + 4$ $(3, 10)$

24. Find the value of c so that the point (3, 2) will be on the line $2x - y = c$.

25. Find the value of m so that the line $y = mx - 5$ will pass through the point $(-2, 3)$.