# Math 9 Linear Relations Assignment

Name: _____

1. Plot the point $(-3, 2)$

2. $y = 4x - 3$
   a. Sketch this line

   b. Slope?

   c. $y$-intercept?

3. Sketch the line $y = -x + 4$

4. $y = -2$
   a. Sketch this line

   b. What quadrants is this line in?

5. $x = 3$
   a. Sketch the line

   b. What quadrants is this line in?

6. Plot the point $\left(\frac{2}{3}, -2\right)$

7. Plot the point $\left(-1.\overline{6}, 3\frac{2}{3}\right)$

8. Sketch $y = 0$

9. Sketch $y = e$

10. $y = 3x + 2$
   a. Create a table of values

   b. Sketch the graph

   c. State the x-intercept

   d. When $x = -3$, what is the value of $y$?

11. Given $y = px + q$ what is the meaning of:
   a. $p$?

   b. $q$?

12. Sketch $y = 3 - 2x$

13. Sketch: $y = \frac{4}{-3}x - 1$

14. Sketch $y = 0.\overline{3} + \frac{x}{2}$

15. Sketch $x = ey$

16. Given the points $(1, -3)$ and $(5, -4)$
   a. Find the slope

   b. Find the line equation in slope-point form: $y - y_1 = m(x - x_1)$

   c. Find the line equation in slope-intercept form: $y = mx + b$

17. Given the point $\left(3\frac{2}{3}, -\frac{1}{4}\right)$ and $\left(-4, 2\frac{2}{3}\right)$ find the slope.

18. You charge \$100 for a diagnostic fee and then charge \$50 per hour of labour
   a. What is the equation of the graph?

   b. Sketch this graph

   c. How much do you make for working 6 hours?

   d. How long do you have to work to earn \$325?

19. 20, 15, 10, ... Find the 1000th number