Math 9 Linear Relations Extra Practice

1. Plot the point $(5, -1)$

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

   b. Slope?

   c. y-intercept?

3. Sketch the line $y = -2x + 3$

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

   b. What quadrants is this line in?

5. $x = -2$
   a. Sketch the line

   b. What quadrants is this line in?

6. Plot the point $\left(\frac{3}{4}, -3.5\right)$

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

8. Sketch $x = 0$

9. Sketch $y = -\pi$

10. $y = 4x - 5$
    a. Create a table of values

    b. Sketch the graph

    c. State the x-intercept

    d. When $x = -2$, what is the value of y?

11. Given $y = kx + c$ what is the meaning of:
    a. k?

    b. c?

12. Sketch $y = 5 - 3x$

13. Sketch: $y = \frac{-3}{5}x + 2$

14. Sketch $y = 0.\overline{6} + \frac{x}{4}$

15. Sketch $x = -\pi y$

16. Given the points $(-1, 2)$ and $(-3, 5)$
    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 $\left(2\frac{1}{2}, -3\right)$ and $\left(-5, 1\frac{1}{3}\right)$ find the slope.

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

    b. Sketch this graph

    c. How much do you make for working 4 hours?

    d. How long do you have to work to earn $750?

19. 30, 34, 38, ... Find the 100^{th} number