10 Academic Math **1. Graphing Equations**

Part A

Graph each equation using the following steps:

1st Plot the y-intercept.

2nd From the y-intercept, plot a second point using the slope by making a triangle rise/run.

3rd Connect the two points and draw a straight line through them, extending beyond the points.

4th Place arrows at each end of the line to show that it continues in each direction.

5th Write the equation of the line along the line.

Graph #1-5 on one set of axes . graph # 6-10 on another set of axes.

1. $y = 3x - 4$
2. $y = -2x + 4$
3. $y = \frac{2}{3}x - 5$
4. $y = 3x + 5$
5. $y = x - 8$
6. $y = -\frac{1}{3}x + 7$
7. $y = -\frac{3}{2}x - 2$
8. $y = -x$
9. $y = 10$
10. $x = -10$

Questions

a) Which of the equations are **parallel?**

How can we tell?

b) Which of the equations are **perpendicular?**

How can we tell?

Part B

1. **Draw a sketch** of each of the following on separate sets of axes:

   i) a line with a positive slope and positive y-intercept

   ii) a line with a negative slope and positive y-intercept

   iii) a line with a positive slope and negative y-intercept

   iv) a line with a negative slope and negative y-intercept

   v) a line with a slope of zero and a positive y-intercept

   vi) a line with an undefined slope and a positive x-intercep