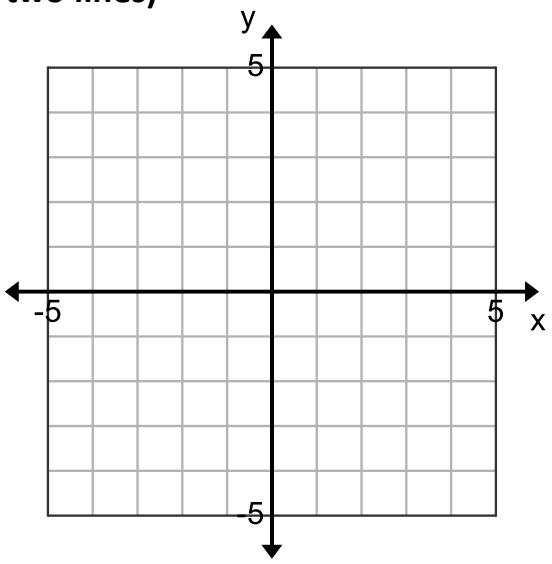
MPM1DI

Summative Assessment Review Day 3 (Unit 6 – Chapter 6)

☺ **Analyzing Linear Relations (chapter 6 in text) [ANALYTIC GEOMETRY STRAND]**

- **Equations of Lines in slope/y-intercept form**
  y = mx + b, where m is the slope, b is the y-intercept (where the graph crosses the y-axis – the point where x is 0)
- **Equations of Lines in standard form**
  Ax + By + C = 0, leading coefficient must be positive, no fractions, no decimals, = 0 on the right side, in order
- **Horizontal/Vertical Lines**
- **Graphing using intercepts**
- **Parallel Lines (parallel lines have the same slope)**
- **Perpendicular Lines (slopes are negative reciprocals)**
- **Finding Equation of Line given a point and slope**
- **Finding Equation of Line given two points**
- **Linear Systems (Finding point of intersection of two lines)**

Example 1: Graph the line y = -3x-2 using the slope and y-intercept.



Example 2: Write the equation 2x - 4y = 10 in slope/y-intercept form (y = mx + b form)

Example 3: Write y = -3x + 2 in standard form

Example 4: The equations of four lines are given:

y = 2x - 4 y = 5 y = -x + 3 x = -3

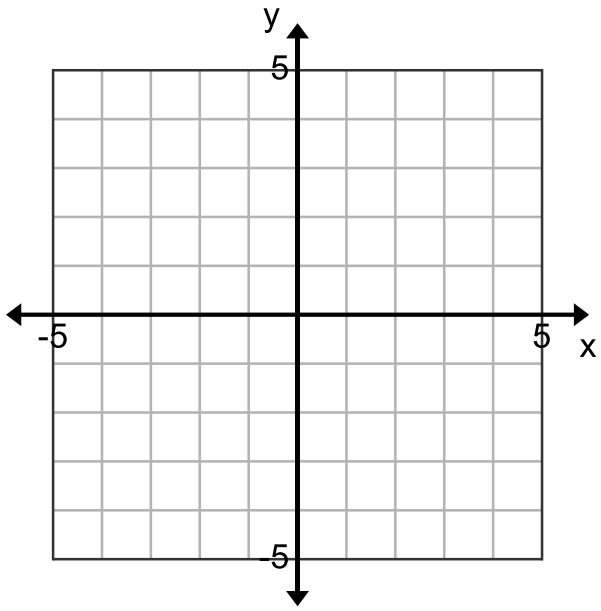
Which of these represents

(a) a vertical line? (b) a horizontal line?

(c) a line that slopes upward to the right?

(d) a line that slopes downward to the right?

Example 5: Graph 2x - 4y = 10 using intercepts.
To find the x-intercept, set y=0
To find the y-intercept, set x = 0
Be sure to extend the line to fill your grid and label the line. Ensure that you have included a scale, you've labeled the axes and included arrows on the line and on the axes.



Example 6: What is the equation of a line…

(a) With y-intercept 3 and perpendicular to a line with slope $\frac{1}{2}$.

(b) Parallel to the line x = 2 and passing through the point (5, 7)

(c) through (-4, -1) with slope $\frac{1}{2}$.

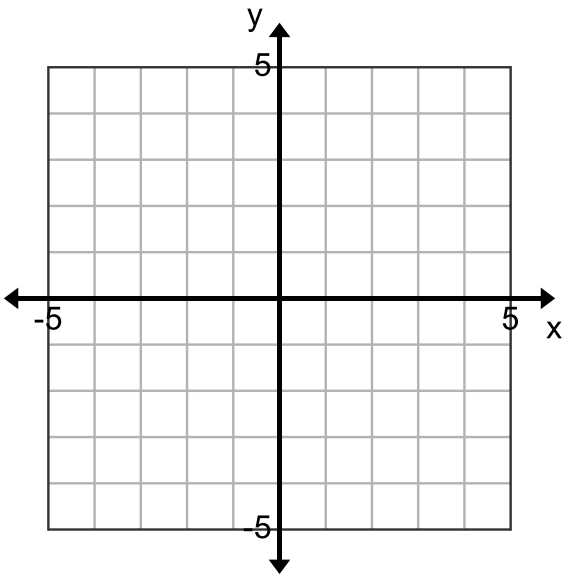
(d) With an x-intercept of 6 and a y-intercept of 4
To write the equation of a line we need the slope and the y-intercept. We need to use the two points (6, 0) and (0, 4) to find the slope.

(e) Through the points (-1, 7) and (-5, 3)
To write the equation of a line we need the slope and the y-intercept. We need to use the two points to find the slope.

Example 7: Find the point of intersection of the two lines by graphing. **Check** your answer. Be sure to label your axes and use good graphing form

$y = -3x + 1$

$y = x + 5$



Check in: $y = -3x + 1$

LS	RS

Check in: $y = x + 5$

LS	RS

Do :
Page 357 # 13 – 18 (ch. 6)
Page 355 # 6, 9, 12 (ch. 6)
Redo old Unit 6 Test.