1. Graphing the following linear equations:

   a) $2y + 6x = 6$ b) $12x + 4y = -4$ c) $y = 3$ d) $y = 2x + 1$

   e) $y = -\frac{1}{2}x - 2$

2. Identify the slope and y-intercept of the lines above.

3. Describe a relationship between the graphs of part *a* and part *b*. What do you notice about the slopes?

4. Describe a relationship between the graphs of part *d* and part *e*. What do you notice about the slopes?

5. Write a linear equation based on the following information:
   a) slope: -3   y-intercept: 1   b) slope: ¾   y-intercept: 0

6. Which of the three given points, if any, lie on the given line?
   a) $x + y = 7$ (2,5)   (-2,-5)   (-3,10)
   b) $2x - y = 8$ (4,0)   (1,-7)   (-2,-12)

If a line passes through the given point (x_1, y_1) and has a slope m, the **point-slope form** of the equation of the line is $y - y_1 = m(x - x_1)$.

Ex) Write an equation of a line that has a slope of –2 and passes through the point (4,2).

Ex) Write an equation of the line with a slope of -½ and passes through the point (-4,-2)

Ex) Write an equation of the line that passes through the given points (6,1) and (-4,-4)