Homework 9 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Given these two points on the same line, compute the slope of the line they lie on
   1. (2,3); (4,0)
   2. (4,2); (3,4)
   3. (-2,3); (2,1)
   4. (-1,1); (2,3)
2. Graph the line containing the point P and having slope m
   1. P=(1,2); m=3
   2. P=(2,1); m=4
   3. P=(2,4); m=
   4. P=(2, -4); m=0
3. Find the *equation* of the line with the given properties.
   1. slope=3; contains the point (-2,3)
   2. contains the points (1,3) and (-1,2)
   3. x-intercept=2, y-intercept=1
   4. vertical, containing the point (4,-5)
   5. horizontal, containing the point (4,-5)
4. A study indicated that, in 1998, 42% of teens in grades 7 through 12 had recently used cigarettes. A similar study in 2005 indicated that 22% of such teens had recently used cigarettes.
   1. Write a linear equation that relates the percent of teens y to the number of years after 1998, x. (ie. Your y values are your percentages and your x-values are years after 1998)
   2. Find the x and y intercepts of this equation
   3. Use this equation to make an educated ***prediction*** about the year 2019. (ie. What percentage of teenagers does your equation predict will be smoking in the year 2019?)