1. Write the equation of a line if:

   a. $m = \dfrac{2}{9}$ and b = 3.   b. it passes through (4, 5) and (0, 2).

2. Write the equation for a line parallel to one with a slope equal to 6 and passing through the point (3, -4).

3. Write an equation for a line perpendicular to one with a slope of 5 and passing through the point (-5, 2).

4. Write an equation of the line perpendicular to y = 2x – 6 that passes through the point (8, 10).

5. Put these equations into slope-intercept form by solving for y.

a. y – x = 4   b. 4x – 8y = 16

Are these lines parallel, perpendicular, or neither? (Only decide once they are both in slope-intercept form.)

6. Determine whether the given equations of lines are Parallel (||), Perpendicular ($\perp$) or Intersecting ($\times$).

a)
$$2x+4=y$$
$$y=-2x-3$$

b)
$$y=\frac{5}{4}x$$
$$y=-\frac{4}{5}x+4$$

c)
$$3x+5y=15$$
$$3x+5y=10$$

d)
$$y=4x-3$$
$$2y+12=8x$$

|| or $\perp$ or $\times$ || or $\perp$ or $\times$ || or $\perp$ or $\times$ || or $\perp$ or $\times$

7. Determine the equation of the line that is:

a) parallel to y = -3x + 2 and goes through (-1,5) in slope intercept form.

b) parallel to $y=\frac{1}{5}x-4$ and goes through (10,-2) in slope intercept form.

c) perpendicular to y = 5x + 4 through (-2,-3) in slope intercept form.

d) perpendicular to y = -2x – 1 through (-5,2) in the slope intercept form.