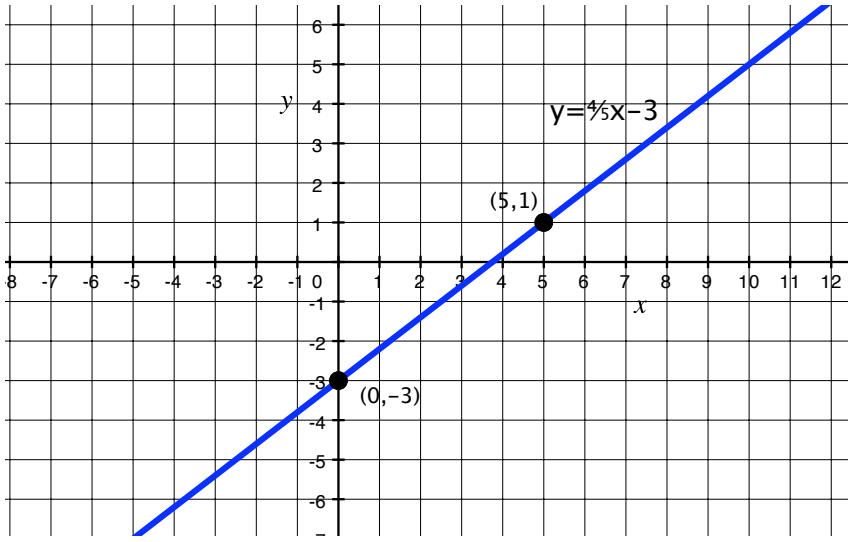
Math 80 Quiz #4 Answers

1. y-intercept: $(0, -3)$ Slope $= \frac{4}{5}$ (Up 4, right 5)



2. (a) Since the line goes through the points (0,10000) and (5,6000), the line has

$$\text{slope} = \frac{6000-10000}{5-0} = \frac{-4000}{5} = -800.$$

We have the intercept (0,10000), so using the slope-intercept form, we have that $\boxed{y = -800x + 10000.}$

(b) To find the value after 20 years, we can evaluate the equation at $x = 10 \quad \Rightarrow \quad y = -800(10) + 10000$

$= \boxed{2000 \text{ dollars}}$

3. The lines are $\boxed{\text{neither}}$ parallel nor perpendicular since the slopes of the lines are not equal and the slopes are not negative reciprocals of each other.

4. Need:
1) Slope: $m = \frac{3-(-5)}{-1-3} = \frac{8}{-4} = -2$

2) Point: You can choose either point given. (Note: Neither of the points are the y-intercept of the line.)

Equation: Using point-slope form, here are two possible answers:

$$\boxed{y + 5 = -2(x - 3) \qquad y - 3 = -2(x + 1)}$$

If you write this in slope-intercept form, it will be $\boxed{y = -2x + 1,}$ which is another possible answer.