Palomar College Math Placement Test Study Guide
Beginning Algebra

Topic 4: Linear Equations in Two Variables

1. Graph: $y = 2x - 3$

2. Solve for y: $3x - 4y - 8 = 0$

3. Find 5 points on the line $y = \frac{-2}{3}x - 1$

4. Find the slope of the line passing through the points (2, -3) and (-1, 2)

5. Find an equation of the line with slope $\frac{1}{4}$ passing through the point (-4, 1)

6. Solve:
$$2x - 3y = 4$$
$$4x - 2y = -4$$

7. Solve:
$$3x + 6y = 9$$
$$x + 2y = 5$$

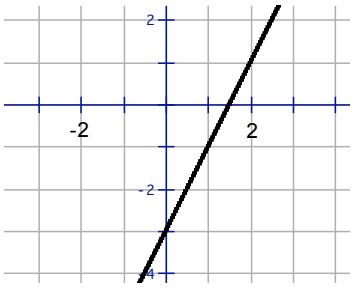
8. Solve:
$$y = -3x + 5$$
$$y = 4x - 9$$

9. How many solutions are there to the given system of equations?

$$2x - 4y = 8$$
$$x = 2y + 4$$

10. Traveling with the wind, a plane made the 800 mile trip between two cities in 5 hours. The return trip, traveling against the wind, the trip took 8 hours. Find the rate of the plane in calm air and the rate of the wind.

Answers:

1. 

2. $y = \frac{3}{4}x + 2$
3. Some possible points are (0, -1), (3, -3), (6, -5), (-3, 1), (-6, 3)
4. m = -5/3
5. $y = \frac{1}{4}x + 2$
6. (-5/2, -3)
7. no solution
8. (2, -1)
9. infinite number of solutions
10. The rate of the plane in calm air is 130 mph and the rate of the wind is 30 mph.