Palomar College Math Placement Test Study Guide Intermediate Algebra

Topic 5: Systems of Linear Equations

1.	Solve:	2x - 3y = 4 $4x - 2y = -4$
2.	Solve:	3x + 6y = 9 $x + 2y = 5$
3.	Solve:	y = -3x + 5 $y = 4x - 9$
4.	Solve:	x + 3y = 4 2x + 3z = -1 3y - z = 2

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

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

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

$$3x - 5y = -6$$
$$4x + 2y = 5$$

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

$$\begin{array}{l} x = 2y - 3 \\ x - 2y = 3 \end{array}$$

8. 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. (-5/2, -3)
- 2. Inconsistent, no solution
- 3. (2, -1)
- 4. (7, -1, -5)
- 5. infinite number of solutions
- 6. one solution
- 7. no solution
- 8. The rate of the plane in calm air is 130 mph and the rate of the wind is 30 mph.