**Palomar College Math Placement Test Study Guide**
Intermediate Algebra

Topic 4:   Linear Equations and Inequalities in Two Variables

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

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

3.   Sketch the graph of a line whose slope is less than zero, but whose y-intercept is greater than zero.

4.   Sketch the graph of a line whose slope is undefined.

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

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

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

8.   Find the slope of the line $2x + 5y = 10$

9.   Write an equation of the line perpendicular to $y = 2x + 3$ through the point (0, 4)

10.   Write an equation of the line parallel to $2x + 3y = 6$ passing through the point (-1, -2)

11.   Write an equation of the line shown in the graph.

       a.   b.
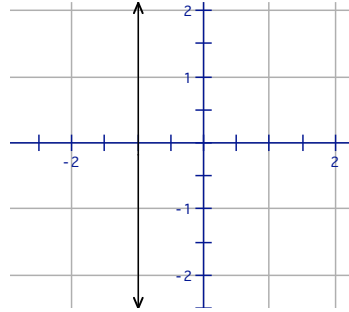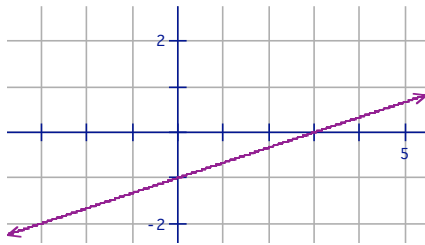
12. Graph the solution set: $y > \dfrac{-2}{5}x + 3$

13. Graph the solution set: $3x - 2y \le 6$

14. The coordinates of a point P are (1, -5). Find the coordinates of a point Q so that the line y = -2 is the perpendicular bisector of $\overline{PQ}$.
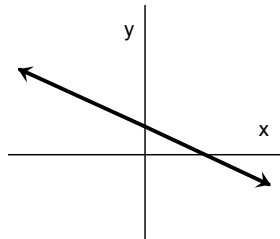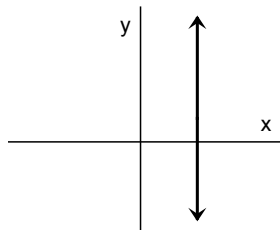
Answers:

1.
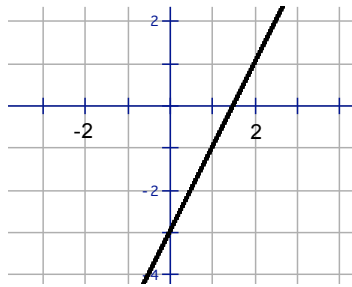
2. $y = \dfrac{3}{4}x + 2$

3.

4.

5.   Some possible points are (0, -1), (3, -3), (6, -5), (-3, 1), (-6, 3)

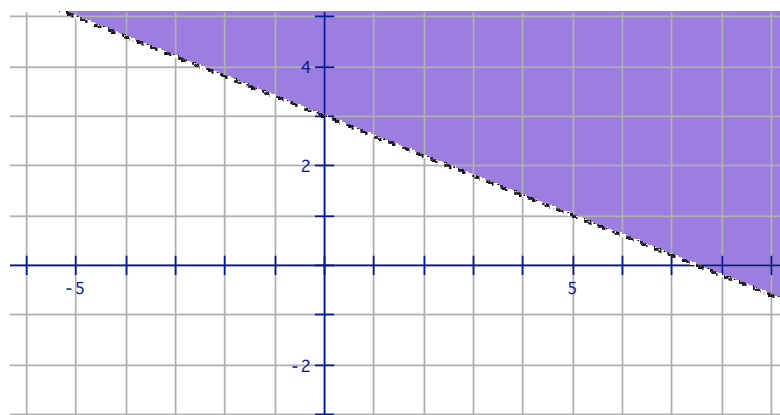6.   m = -5/3

7. $y = \dfrac{1}{4}x + 5$

8.   m = -2/5

9. $y = -\dfrac{1}{2}x + 4$

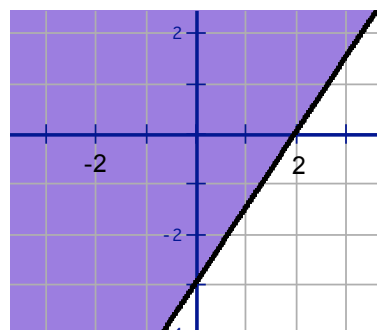10. $y = -\dfrac{2}{3}x - \dfrac{8}{3}$

11.   a. $y = \dfrac{1}{3}x - 1$

           b.   x = -1

12.

13.

14. (1, 1)