Math 10C Worksheet   Name: _____
Linear Functions

1. Determine the slope of pair of points.

    a. (2, 5) and (4, 10)   b. (-5, 7) and (3, -9)

Increasing/ Decreasing/ Neither   Increasing/ Decreasing/ Neither
Parallel m = _____   Parallel m = _____
Perependicular m = _____   Perependicular m = _____

    c. (2, 3) and (2, 10)   d. (5, 10) and (-3, 10)

Increasing/ Decreasing/ Neither   Increasing/ Decreasing/ Neither
Parallel m = _____   Parallel m = _____
Perependicular m = _____   Perependicular m = _____

2. State the slope and y intercept for each of the following.
    a. $y = -x + 7$

    m=
    b=

    b. $y = \dfrac{2}{3}x - 6$
    m=
    b=

    c. $7x + 3y = 21$

    m=
    b=

3. State whether the pair of lines are parallel, perpendicular, or neither.

   a. $y = 2x - 5$ and $y = -\dfrac{1}{2}x + 6$

   b. $y = 3x - 5$ and $y = -3x - 5$

   c. $y = 7x - 4$ and $y = 7x + 3$

   d. $y = 3x + 1$ and $y = 7x - 4$

4. Algebraically determine the x and y intercepts. (2 marks each)
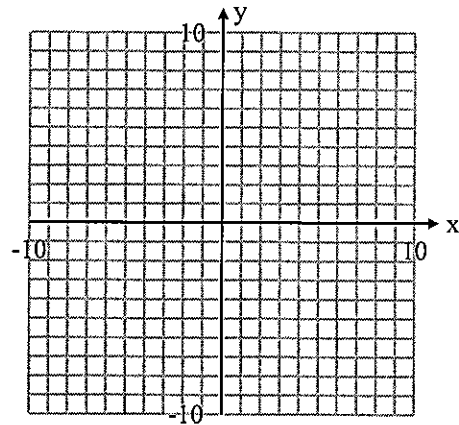
   a. $y = 3x + 6$

   b. $y - 9 = \dfrac{2}{3}(x + 6)$

   c. $2x - 3y - 18 = 0$

5. Graph $y = \dfrac{1}{2}x - 4$

m =

y – intercept =

6. Convert each equation to general form.

a. $y = 2x - 7$

b. $y - 5 = \dfrac{1}{8}(x - 3)$

7. The equation of the line containing (2, 5) and parallel to x = 4 is

8. The equation of the line containing (– 4, 3) and parallel to y = 1 is

9. Sketch and increasing, decreasing, undefined, and zero slope line.

10. Write the equation of a new line in Point-slope form, given that it passes through the point (2, 3) and is parallel to $y = 4 - 2x$

11. Write the equation of a new line in Point-slope form, given that it passes through the point (-5, 2) and is perpendicular to $2x - 5y + 2 = 0$

12. Write the equation of a new line in slope y-intercept form, given that it passes through the point (0, 4) and is perpendicular to $y + 3 = -2(x + 6)$

13. Write the equation of a new line in general form, given that it passes through the point (3, -2) and is parallel to $3x - 2y + 10 = 0$

14. Write the equation of a new line in general form, given that it passes through the point (4, 10) and is perpendicular to $5x - y + 3 = 0$