Summer Session, Worksheet for Lesson 17

FINDING THE EQUATION OF A LINE INSTRUCTIONS FOR ALL **SIX** PROBLEMS:

**** SLOPE-INTERCEPT FORM: y=mx+b ➔ m and b should be written as integers or fractions.**

**** STANDARD FORM: ax + by = c ➔ a, b, and c should be written as integers, with a > 0, and such that the greatest common divisor of a, b, & c is 1.**

1) Find the equation of the line that satisfies the given conditions.
   a) Write the equation in **standard** form.
   b) Write the equation in **slope-intercept** form.

Given: x-intercept (6,0); slope is 8

2) Write an equation of the line in **standard** form that contains the given point and is parallel to the given line.

Given: point (7, – 8); line $4x - 5y = 3$

3) Write an equation of the line in **slope-intercept** form that contains the given point and is parallel to the given line.

Given: point (4,9); line $x + 9y = 5$

4) Write an equation of the line in **slope-intercept** form that contains the given point and is perpendicular to the given line.

Given: point (5,8); line $3x + y = 9$

5) Write an equation of the line in **standard** form that has the given slope and contains the given point.

Given: $m = -3$; point (6, 9)

6) Write an equation in **standard** form for the line that with slope $\frac{16}{17}$ going through the point $(-4, -6)$.