Equation of parallel lines is when both points have the same slope.

Week 3 discussion I will find equations of lines that are parallel or perpendicular to the given lines and specific point. My assigned number is 7.

The equation I will be using is Y=3/4x-1 and the parallel line must pass through point (4,0). I will be using this to find the **y intercept**.

The **slope** of the given line is ¾. First, we look at is our origin, because that tells us where our lines start and then from there we build from our **slope**.

y – y1 = m ( x – x1) The formula that we will use for the point slope equation.

y - 0 = ¾ (x - 4) Here I plugged in **slope** and **ordered pair.**

y = ¾ x– 12/4 Here I distributed the **slope** and simplify.

y = ¾ x – 3 Equation of y parallel line.

Equation of perpendicular lines has a slope which is the negative **reciprocal** of the slope of the other line.

Here is what I will be working with y=3/4x-1 and my point is (4,0). I will be using this to find the **y intercept.**

y – y1= m (x-x1) I will be working with the same formula.

Y – 0= ¾(x-4) Again we subtract the slope and ordered pair,

Y= ¾ x – 3 The zero disappears because 1-0=1 and this is our final answer.

The equation of perpendicular line.