Math 110
More Notes on Linear Equations

1. Sketch and label lines with the indicated slopes.
   (a) \( m \) is positive and large.
   (b) \( m \) is positive and close to zero.
   (c) \( m \) is negative and close to zero.
   (d) \( m < -2 \)

   Arrange the lines above (a – d) in order from least slope to greatest slope:
   \[ (d) < (c) < (b) < (a) \]

2. Graph two different lines with slope \( \frac{3}{4} \).

3. Write the equation of a line parallel to \( y = \frac{3}{4}x - 4 \).
   \[ \text{e.g. } y = \frac{3}{4}x + 1 \]

4. Make a table for the equation \( y = \frac{7}{2}x + 3 \).

   \[
   \begin{array}{c|c|c|c|c}
   x & -4 & -2 & 0 & 2 & 4 \\ 
   \hline
   y & -11 & -4 & 3 & 10 & 17 \\
   \end{array}
   \]

5. Find the equation for the table below.
   \[ y = -\frac{5}{3}x + 2 \]
   \[
   \begin{array}{c|c|c|c|c}
   x & -6 & -3 & 0 & 3 & 6 \\ 
   \hline
   y & 12 & 7 & 2 & -3 & -8 \\
   \end{array}
   \]
   \[ m = \frac{-5}{3} \quad y \cdot \text{int: } (0, 2) \]
\( \frac{3}{2} = m \)

\((0, 5)\)

\[ s + x \left( \frac{3}{2} \right) = y \]

8. Write the equation of the line below.

\( \frac{y}{h} = \frac{x}{s} \)

Draw the line through \((-6, -2)\) that is perpendicular to \( s + x \frac{3}{2} = y \).

(b) Plot the point \((-6, -2)\).

(4) Graph the equation \( s + x \frac{3}{2} = y \).

9. \( \frac{y}{h} = \frac{x}{s} \)

Draw the line through \((-3, 5)\) that is parallel to \( s - x \frac{3}{2} = h \).

(b) Plot the point \((-3, 5)\).

(5) Graph the equation \( s - x \frac{3}{2} = h \).