Math 104 - Quiz #2 *key*

Name: _____

1. Solve for x:

$$\frac{8}{x} + \frac{6}{x+5} = \frac{12}{x}.$$

$$\frac{6}{x+5} = \frac{12}{x} - \frac{8}{x} = \frac{4}{x}$$

$$6x = 4(x+5)$$
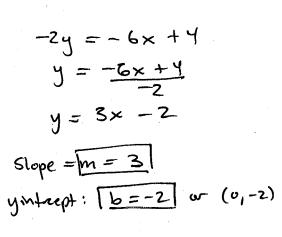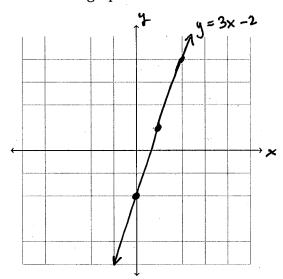$$6x = 4x + 20$$
$$6x - 4x = 20$$
$$2x = 0 \longrightarrow \boxed{x = 10}$$

2. Find the **slope** and **y-intercept** for $6x - 2y = 4$ and then sketch the **graph**.

$$-2y = -6x + 4$$
$$y = \frac{-6x + 4}{-2}$$
$$y = 3x - 2$$

Slope $= \boxed{m = 3}$

y-intercept: $\boxed{b = -2}$ or $(0, -2)$

3. Find the slope-intercept form for the linear equation with slope 2014 and y-intercept at $(0, 4)$.

$$y = mx + b$$

$$\boxed{y = 2014x + 4}$$

4. Find the slope-intercept form for the linear equation that passes through the points $(0, 3)$ and $(3, 1)$.

slope $= m = \dfrac{1-3}{3-0} = \dfrac{-2}{3}$

y-intercept $= b = 3$

$$y = mx + b \longrightarrow \boxed{y = \frac{-2}{3}x + 3}$$