

Math 085 - Quiz 9

April 10, 2013

Name key

Score _____

Show all your work to receive full credit. Supply explanations when necessary. Reduce all fractions to lowest terms.

1. (2 points) Solve each equation. Write your answer as a fraction in lowest terms.

$$\begin{aligned} \text{(a)} \quad 7 &= 5 + \frac{3}{2}x \\ -5 \quad -5 & \\ \hline 2 &= \frac{3}{2}x \end{aligned}$$

$$\frac{2}{3} \left(\frac{2}{1} \right) = \frac{2}{3} \left(\frac{3}{2} x \right)$$

$$\boxed{\frac{4}{3} = x}$$

$$\text{(b)} \quad -\frac{11}{5}y + \frac{36}{5} = \frac{7}{2}$$

$$\left. \begin{aligned} & -\frac{36}{5} \quad -\frac{36}{5} \\ \hline -\frac{11}{5}y &= -\frac{37}{10} \end{aligned} \right\} \quad \frac{7}{2} - \frac{36}{5} = \frac{35}{10} - \frac{72}{10} = -\frac{37}{10}$$

$$-\frac{11}{5}y = -\frac{37}{10}$$

$$y = -\frac{5}{11} \left(-\frac{37}{10} \right) = \frac{37}{22}$$

$$\boxed{y = \frac{37}{22} = 1 \frac{15}{22}}$$

2. (1 point) Write each mixed number as an improper fraction in lowest terms.

$$\text{(a)} \quad 5\frac{3}{7} = \boxed{\frac{38}{7}}$$

$$\text{(b)} \quad -9\frac{8}{12} = -9\frac{2}{3} = \boxed{-\frac{29}{3}}$$

3. (1 point) Write each improper fraction as a mixed number in lowest terms.

$$(a) -\frac{50}{8} = -\frac{25}{4} = \boxed{-6\frac{1}{4}}$$

$$(b) \frac{227}{4} = \boxed{56\frac{3}{4}}$$

4. (1 point) Compute and write your answer as a mixed number in lowest terms.

$$6\frac{2}{5} - 3\frac{5}{7}$$

$$\begin{array}{r} 6\frac{2}{5} \cdot \frac{7}{7} \\ - 3\frac{5}{7} \cdot \frac{5}{5} \\ \hline 6\frac{14}{35} \\ - 3\frac{25}{35} \\ \hline 2\frac{24}{35} \end{array}$$