

HW: Worksheet

Warm up:

Solve.

$$1) 4x - 7 = -10$$

$$\begin{array}{r} \xrightarrow{+7} \quad \xrightarrow{+7} \\ \hline 4x = -3 \\ \hline \frac{4x}{4} = \frac{-3}{4} \end{array}$$

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

$$2) 3 = 8 - 2x$$

$$\begin{array}{r} -8 \quad -8 \\ \hline -5 = -2x \end{array}$$

$$\begin{array}{r} \hline \frac{-5}{-2} = x \\ \hline 2\frac{1}{2} = x \end{array}$$

$$\frac{1}{5} + \frac{3}{8}$$
$$\frac{8}{40} + \frac{15}{40}$$
$$\frac{7}{40}$$

The diagram illustrates the process of adding two fractions with different denominators. The first fraction,  $\frac{1}{5}$ , is multiplied by 8 to get  $\frac{8}{40}$ . The second fraction,  $\frac{3}{8}$ , is multiplied by 5 to get  $\frac{15}{40}$ . The numerators 8 and 15 are highlighted in yellow. The final sum,  $\frac{7}{40}$ , is circled in green.

How do we convert this to an improper fraction?

$$3\frac{2}{5}$$

$$\frac{17}{5}$$

$$-55 + 36$$

$$\begin{array}{r} 4 \times 5 \\ -55 \\ -36 \\ \hline 19 \end{array}$$

$$-2\frac{3}{4} + 1\frac{4}{5}$$

$$-\frac{11}{4} + \frac{9}{5}$$

$$-\frac{55}{20} + \frac{36}{20} = \left(-\frac{19}{20}\right)$$

$-64 - 111$   
 $-64 + (-111)$

$+ \begin{array}{r} 111 \\ + 64 \\ \hline -175 \end{array}$

$-2\frac{2}{3} - 4\frac{5}{8}$

$- \frac{8}{3} - \frac{37}{8}$

$\begin{array}{r} 2 \\ \times 37 \\ \hline 111 \end{array}$

$24 \overline{) 175}$   
 $\underline{-168}$   
 $7$

$\begin{array}{r} 2 \\ \times 24 \\ \hline 168 \end{array}$

$- \frac{64}{24} - \frac{111}{24} = - \frac{175}{24}$

$-7\frac{7}{24}$

$$\frac{31}{42} \div \frac{5}{2}$$

$$\frac{31}{42} \cdot \frac{2}{5}$$

$$\begin{array}{r} \times 31 \\ 5 \\ \hline 155 \end{array}$$

$$\begin{array}{r} \times 42 \\ 2 \\ \hline 84 \end{array}$$

$$\begin{array}{r} \times 84 \\ 2 \\ \hline 168 \end{array}$$

$$\begin{array}{r} 155 \\ - 84 \\ \hline 71 \end{array}$$

$$\frac{2}{5} n - \frac{1}{6} = \frac{4}{7} + \frac{1}{6}$$

$$\frac{4}{7} + \frac{1}{6} = \frac{24}{42} + \frac{7}{42} = \frac{31}{42}$$

$$\frac{5}{2} \left( \frac{2}{5} n \right) = \left( \frac{31}{42} \right) \frac{5}{2}$$

$$n = \frac{155}{84} = \frac{71}{84}$$

$$1) \frac{3}{8} + \frac{2}{3}a = 9$$

$$2) 1\frac{1}{2} = 3 - 2\frac{3}{5}m$$

$$3) 6c - \frac{5}{8} = -3\frac{1}{3}$$

$$4) \frac{2}{5} = \frac{3}{7}y + 4$$

$$\begin{array}{r}
 12 \\
 16 \overline{)207} \\
 \underline{-16} \downarrow \\
 47 \\
 \underline{-32} \\
 15
 \end{array}$$

$$1) \frac{3}{8} + \frac{2}{3}a = 9$$

$$\frac{3}{8} \left( \frac{2}{3}a \right) = \left( \frac{69}{8} \right) \frac{3}{2}$$

$$a = \frac{207}{16}$$

$$a = 12 \frac{15}{16}$$

$$\begin{array}{r}
 9 \\
 \frac{9}{8} - \frac{3}{8} \\
 \underline{\phantom{9}} \\
 \frac{22}{8} - \frac{3}{8} \\
 \underline{\phantom{22}} \\
 \frac{69}{8}
 \end{array}$$



$$\frac{1}{2} - 3$$

$$\frac{2}{2} - \frac{6}{2}$$

$$-\frac{4}{2}$$

$$2) 1\frac{1}{2} = 3 - 2\frac{3}{5}m$$

$$-3 - 3$$

$$-\frac{3}{2} = -2\frac{3}{5}m$$

$$-\frac{5}{3} \left( -\frac{3}{2} \right) = \left( -\frac{5}{3}m \right) \left( -\frac{5}{3} \right)$$

$$\frac{5}{2} = m$$

$$3) 6c - \frac{5}{8} = -3\frac{1}{3}$$

$$4) \frac{2}{5} = \frac{3}{7}y + 4$$

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