

2-7 Solving Equations - Rational Numbers

$$\frac{6}{8} \cdot \frac{5}{1} = \frac{3}{4}$$

Balance

$$\frac{30}{1} = 1$$
$$30 = 1$$

Do	Undo
$\times \frac{5}{6}$	$\div \frac{5}{6} = \times \frac{6}{5}$

Addition Property of Equality
add the same # on both sides

Subtraction Prop. of Equality
subtract the same # from both sides

$$\begin{array}{r} P - 7.36 = -2.84 \\ + 7.36 \quad + 7.36 \\ \hline P = 4.52 \end{array} \quad \begin{array}{r|l} D & U \\ \hline -7.36 & +7.36 \end{array}$$

$$\frac{\cancel{4}}{\cancel{4}} \cdot \frac{\cancel{4}}{\cancel{7}} b = \frac{4}{\cancel{16}} \cdot \frac{\cancel{7}}{\cancel{4}}$$
$$1b = 28$$

D	U
$\frac{4}{7}$	$\frac{\cancel{4}}{\cancel{4}} = \frac{7}{4}$

$$\frac{58.4}{-7.3} = \frac{-7.3m}{-7.3}$$

$$\underline{-8 = 1m}$$

$$\begin{array}{r|l} D & U \\ \hline -7.3 & \div -7.3 \end{array}$$

$$\begin{array}{r} r - 7.81 = 4.32 \\ + 7.81 \quad + 7.81 \\ \hline 12.13 \end{array} \quad \begin{array}{r} DU \\ + 7.81 \\ \hline 7.81 \end{array}$$

$r = 12.13$

$$\frac{7.2v}{7.2} = \frac{-36}{7.2}$$

$$v = \textcircled{-5}$$

$$\frac{D}{U} = \frac{D}{U}$$

To divide fractions
multiply by
the reciprocal

$$-\frac{18}{17} - \frac{21}{31}n = -\frac{3}{5}$$

$$-\frac{18}{17} - \frac{21}{31}n = -\frac{3}{5}$$

$$-\frac{21}{31}n = -\frac{3}{5} + \frac{18}{17}$$

$$-\frac{21}{31}n = \frac{-6 + 36}{85}$$

$$-\frac{21}{31}n = \frac{30}{85}$$

$$-\frac{21}{31}n = \frac{6}{17}$$

$$n = \frac{6}{17} \cdot \frac{31}{-21}$$

$$n = \frac{9}{10}$$

14.)

$$-\frac{5}{9} = f + \frac{1}{3}$$

$$-\frac{5}{9} = f + \frac{3}{9}$$

$$-\frac{5}{9} - \frac{3}{9} = f + \frac{3}{9} - \frac{3}{9}$$

$$-\frac{8}{9} = f$$

$+\frac{1}{3}$		6	=	$-\frac{3}{9}$
$\frac{1}{3} + \frac{3}{9}$		9		

16.)

$$-\frac{9}{2} \cdot \frac{2}{9} P = -\frac{4}{1} \cdot \frac{-9}{1}$$

$P = 36$

20.)

$$-\frac{1}{2} \cdot -\frac{2}{5}d = \frac{4}{9} \cdot \frac{5}{2}$$
$$d = -\frac{10}{9}$$
$$d = -1\frac{1}{9}$$

22.)

$$-1.3 = n - (-6.12)$$

$$-1.3 = n + (+6.12)$$

$$\begin{array}{r} -6.12 \\ -1.3 \\ \hline -7.42 = n \end{array}$$

24.)

$$\frac{\cancel{1.6}}{1} \times \frac{-a}{\cancel{1.6}} = 7.5 \times 1.6$$

$$-a =$$