Name: Period:

Notes 4-2
Solving One-Step Equations with Rational Numbers

Int 1 **Unit 4**

Instructions:

1) Circle the variable and set up your lines.
2) Use Inverse Operations on BOTH SIDES to get the variable alone.
3) Solve with the variable in your answer.
4) Remember you can plug your answer back into the original problem to check.

SOLVE WITH DECIMALS

1) $4.5 = t + 2.5$

$4.5 = t + 2.5$
$-2.5 \quad -2.5$
$2 = t$ or $t = 2$

2) $7.7 = y - 3.2$

$7.7 = y - 3.2$
$+3.2 \quad +3.2$
$10.9 = y$ or $y = 10.9$

3) $.25x = 16$

$.25x = 16$
$.25 \quad .25$
$x = 64$

CHECK:
$.25(64) = 16$ ✓

4) $-2.8p = -4.2$

$-2.8p = -4.2$
$-2.8 \quad -2.8$
$p = 1.5$

5) $8.7 = -\frac{k}{3.2}$

$8.7 = -\frac{k}{3.2}$
$\cdot -3.2 \quad \cdot -3.2$
$-27.84 = k$

CHECK:
$\frac{-27.84}{-3.2} = 8.7$ ✓

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SOLVE WITH FRACTIONS (Adding/Subtracting)

6) $\frac{1}{3} + x = 4$

$\frac{1}{3} + x = 4$

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

$x = 3\frac{1}{3}$

or $x = \frac{11}{3}$

7) $y - \frac{3}{5} = 6\frac{1}{2}$

$y - \frac{3}{5} = 6\frac{1}{2}$

$+\frac{3}{5} \quad +\frac{3}{5}$

$y = 6\frac{1}{2} \cdot \frac{5}{5} + \frac{3}{5} \cdot \frac{2}{2}$

$6\frac{5}{10} + \frac{6}{10} = 6\frac{11}{10}$

$y = 7\frac{1}{10}$

8) $x + \frac{3}{8} = -\frac{11}{4}$

$x + \frac{3}{8} = -\frac{11}{4}$

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

$x = -\frac{11}{4} \cdot \frac{2}{2} - \frac{3}{8}$

$x = -\frac{22}{8} - \frac{3}{8}$

$x = -\frac{25}{8}$

SOLVE WITH FRACTIONS (Multiplying/Dividing)

HOW???

Multiply both sides by the Reciprocal (FLIP) of the fraction by the variable.

9) $\frac{3}{4}b = 9$

$\frac{4}{3} \cdot \frac{3}{4} b = 9 \cdot \frac{4}{3}$

$\frac{12}{12} b = \frac{36}{3} = \frac{12}{1}$

$1b = 12$

$b = 12$

10) $-\frac{7}{8}w = -\frac{21}{64}$

$-\frac{8}{7} \cdot -\frac{7}{8} w = -\frac{21}{64} \cdot -\frac{8}{7}$

$w = \frac{3}{8}$

11) $-7\frac{1}{2} = 1\frac{7}{18}y$

CHANGE to improper!

$-\frac{15}{2} = \frac{25}{18} y \cdot \frac{18}{25}$

$-\frac{27}{5} = y$