

Warm-Up February 3, 2020

a) $-5(3p - 4) = -55$

$$-15p + 20 = -55$$

$$-15p \boxed{+20-20} = -55 - 20$$

$$\frac{-15p}{-15} = \frac{-75}{-15}$$

$$p = 5$$

b) $41 = 12m - 5$

$$12m \overset{+5}{-5} = 41 \overset{+5}{-5}$$

$$\frac{12m}{12} = \frac{46}{12}$$

$$m = 3.8$$

Solving Equations with Variables on Both sides

1. All variables to left side

2. Simplify like terms [Group like terms]

3. solve for variable

A. $6x + 2 = 10 + 4x$

$$\begin{aligned}
 2x + 2 &= 10 \\
 2x + \boxed{2-2} &= 10-2 \\
 \frac{2x}{2} &= \frac{8}{2} \\
 x &= 4
 \end{aligned}$$

$$\begin{aligned}
 6x + 2 &= 10 + 4x \\
 6x - 4x + 2 &= 10 + \boxed{4x-4x} \\
 2x + 2 &= 10
 \end{aligned}$$

B. $-3x + 7 = 2x - 8$

$$-5x + 7 = -8$$

$$-5x + 7 - 7 = -8 - 7$$

$$\frac{-5x}{-5} = \frac{-15}{-5}$$

$$x = 3$$

Verify

L	R
$-3x + 7$	$= 2x - 8$
$-3(3) + 7$	$2(3) - 8$
$-9 + 7$	$6 - 8$
-2	-2

✓

c. $3r^{-1} - 2 = r^{-1} + 4$

$2r^{-1} - 2 = 4$

$2r^{-1} - 2 + 2 = 4 + 2$

$\frac{2r^{-1}}{2} = \frac{6}{2}$

$r^{-1} = 3$

d) $1 - \frac{y}{5} = 3^{-1}$

$\cancel{5} - \frac{y}{\cancel{5}} = 2(\cancel{5})$

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

$y = -10$

$$E. \quad 4k + 4 = \boxed{-2k} - 8$$

$$6k + 4 = -8$$

$$6k \boxed{+4-4} = -8-4$$

$$\frac{6k}{6} = \frac{-12}{6}$$

$$k = -2$$

$$6(-2 - x) = -5(2x + 4)$$

$$-12 - 6x = -10x - 20$$

$$-12 + 4x = -20 + 12$$

$$\frac{4x}{4} = \frac{-8}{4}$$

$$x = -2$$

$$4g \overset{\times 3g}{=} 7 \boxed{- 3g \overset{\times 3g}}$$

$$\frac{7g}{7} = \frac{7}{7}$$

$$g = 1$$

Homework

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#10

#11

#17

#10. a) $a = 5$ d) $u = 6.3$
 b) $y = -3.2$ e) $b = 4.1$
 c) $z = 5.4$ f) $f = -2.5$

#11. a) $n = -1$ d) $v = -2.8$
 b) $q = 9$ e) $x = 2.5$
 c) $a = 3.6$ f) $b = -3.5$

#17. a) $g = 35$ c) $h = 2.54$
 b) $j = -17.5$ d) $s = 10$

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$$-10.8 + 7z = 52 - 5z$$

$$-10.8 + 2z = 0$$