Curriculum Outcomes:

PR1: . Generalize a pattern arising from a problem-solving context using linear equations and verify by substitution.

PR3. Model and solve problems using linear equations of the form:

ax = *b;* = b , a ≠ 0; *ax* + *b* = *c*; +*b* = *c,* a ≠ 0; = *b*, *x* ≠ 0 ax ax xa

ax+ *b* = *cx* + *d; a(bx* + *c)* = *d(ex* + *f); a(x* + *b)* = *c; ax* = b+*cx* **concretely, pictorially and symbolically, where *a, b, c, d, e, and f* are rational numbers**

Student Friendly:

"Rearranging an equation with variables on both side of the equal sign"

Use inverse operations to solve the following

(MUST SHOW WORK)

1) $\frac{5x}{7} - \frac{3}{4} = \frac{-4}{7}$

2) $22.3x - 5.7 = 28.4x + 6.6$

Use inverse operations to solve the following

(MUST SHOW WORK)

1) $\frac{5x}{7} - \frac{3}{4} = \frac{-4}{7}$

(28) (28) (28)

$\frac{140x}{7} - \frac{84}{4} = \frac{-112}{7}$

$20x - 21 = -16$ (+21 on both sides)

$\frac{20x}{20} = \frac{5}{20}$

$x = \frac{5}{20} = \frac{1}{4}$

Use inverse operations to solve the following

(MUST SHOW WORK)

$-22.3x$ $-22.3x$

2) $22.3x - 5.7 = 28.4x + 6.6$

-6.6 $+6.6$

$-5.7 = 6.1x + 6.6$

$$\frac{-12.3}{6.1} = \frac{6.1x}{6.1}$$

$$x = \frac{-12.3}{6.1}$$

12) $3x + 3 = 11 - 5x$

$+5x \qquad +5x$

$8x + 3 = 11$

$-3 \qquad -3$

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

$x = 1$

Algebra Practice Problems Date: _____

Worksheet generated at **www.math.com**

1) $-3 + x = -7$

$x = -4$

2) $-10 + x = -10$

$x = 0$

3) $7x + 4 = -66$

$x = -10$

4) $-3x + 1 = -26$

$x = 9$

5) $4x - 8 = 2x - 4$

$x = 2$

6) $4 + 4x = -7x + 81$

$x = 7$

7) $6 + 5x = 7x + 0$

$x = 3$

8) $x + 2 = -18 - 4x$

$x = -4$

9) $-2 - 5x = 6x + 31$

$x = -3$

10) $5x - 1 = -2x + 41$

$x = 6$

11) $-6x - 8 = -3 - 5x$

$x = -5$

12) $3x + 3 = 11 - 5x$

$x = 1$

13) $-6x + 5 = x - 30$

$x = 5$

14) $-7x - 9 = -14 - 2x$

$x = 1$

http://www.math.com/cgi-bin/mathf_sp.pl 2/15/2016

15) $4x + 10 = -4x + 74$

x= 8

16) $-9 + 4x = 2x + 1$

x= 5

17) $7(10 + 2x) = -28$

x= -7

18) $-6(-10 - 2x) = 84$

x= 2

$$5)\quad \overset{-2x}{\boxed{4x}} - 8 = \overset{-2x}{\boxed{2x}} - 4$$

$$\boxed{2x} - 8 \overset{+8}{} = -4 \overset{+8}{}$$

$$\frac{2x}{2} = \frac{4}{2}$$

$$\boxed{x = 2}$$

Solve

$$2z - 5 - 4z = 7 + 6z - 13$$

$$-2z - 5 = -6 + 6z \quad (+2z)$$

$$-5 = -6 + 8z \quad (+6)$$

$$\frac{1}{8} = \frac{8z}{8}$$

$$z = \frac{1}{8}$$

Solve

$$5(x-4) = -3(x+2)$$

$$5x - 20 = -3x - 6$$

$+3x$ $+3x$

$$8x - 20 = -6$$

$+20$ $+20$

$$\frac{8x}{8} = \frac{14}{8}$$

$$x = \frac{14}{8} = \frac{7}{4}$$

Worksheet: Section 6.2: Solving Equations

Questions: 1 to 12

Math 9 Name_____

Section 6.2: Solving Equations

Date_____

Solve each equation.

1) $x - 6 + 7 = 3x - 11$

{5}

$x + 1 = 3x - 11$

2) $6 + 5n + 2n = 11 + 6n$

{1}

$6 + 7n = 11 + 6n$

3) $-7n + 2 = -12 + 4n - 6 - 2$

{2}

4) $9 - 2n = n - 6$

{5}

5) $-9 + x + 3 - 2 = 1 + 4x$

$\{-3\}$

6) $4v + 1 = 5v - 6 + 8v - 11$

$\{2\}$

7) $34 - 5x = 4(x - 5)$

$\{6\}$

8) $6(1 - 3n) = -27 - 7n$

$\{3\}$

9) $-5(p-1)=8-4p$

$\{-3\}$

10) $-40+4x=-8(-4+4x)$

$\{2\}$

11) $-13-7r=-6(-5r-4)$

$\{-1\}$

12) $-20-m=2(2+m)$

$\{-8\}$

13) $-\frac{21}{5}-\frac{16}{5}b=\frac{1}{2}b-\frac{1}{2}$

$\{-1\}$

14) $-\frac{49}{6}+\frac{9}{4}v=\frac{9}{4}v-\frac{7}{2}v$

$\{\frac{7}{3}\}$

15) $\frac{3}{5}v - \frac{10}{3} = \frac{1}{15} - \frac{6}{5}v + \frac{7}{2}v$

$\{-2\}$

16) $-x + x = 2x$

$\{0\}$

17) $2m - \frac{6}{5}m = -\frac{5}{3}m$

$\{0\}$

18) $\frac{25}{36} - \frac{23}{6}v = -5v + \frac{9}{4}$

$\{\frac{4}{3}\}$