

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:

$$ax = b; = b, a \neq 0; ax + b = c; +b = c, a \neq 0; = b, x \neq 0$$

$ax + b = cx + d; a(bx + c) = d(ex + f); a(x + b) = c; ax = b + cx$ 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”

Class/Homework

Worksheet 1:

Math 9B

Name _____

6.1 & 6.2 Review

Date _____

Solve each equation.

$$1) \quad -5 = v - 2 \quad \boxed{v = -3}$$

$$-3 = v$$

$$2) \quad -6 + x = 7 \quad \boxed{x = 13}$$

$$x = 13$$

$$3) \quad \frac{18n}{18} = \frac{270}{18} \quad \boxed{n = 15}$$

$$n = 15$$

$$4) \quad 3 = 18 + n \quad \boxed{n = -15}$$

$$-15 = n$$

$$5) \quad 3b = -\frac{27}{5} \quad \boxed{b = \frac{-9}{5}}$$

$$\frac{15b}{15} = \frac{-27}{15}$$

$$b = \frac{-27}{15}$$

$$b = \frac{-9}{5}$$

$$6) \quad -1 = \frac{n}{2} \quad \boxed{n = -2}$$

$$-2 = n$$

$$7) \frac{1}{2} + n = \frac{5}{6} \quad \boxed{n = \frac{1}{3}}$$

$$3 + 6n = 5$$

$$\frac{6n}{6} = \frac{2}{6}$$

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

$$9) 3 = \frac{a}{8} + 5 \quad \boxed{a = -16}$$

$$24 = a + 40$$

$$-16 = a$$

$$13) 4n - 3 = 13 - 2n + 4n \quad \boxed{n = 8}$$

$$4n - 3 = 13 + 2n$$

$$2n - 3 = 13$$

$$\frac{2n}{2} = \frac{16}{2}$$

$$n = 8$$

$$8) x + \frac{7}{5} = \frac{86}{15} \quad \boxed{n = \frac{13}{3}}$$

$$15x + 21 = 86$$

$$\frac{15x}{15} = \frac{65}{15}$$

$$x = \frac{13}{3}$$

$$10) 81 = 5n + 6 \quad \boxed{n = 15}$$

$$\frac{75}{5} = \frac{5n}{5}$$

$$15 = n$$

$$14) 1 + 2p = 7 + p \quad \boxed{p = 6}$$

$$1 + p = 7$$

$$p = 6$$

Class/Homework

Worksheet 2:

Math 9

Name _____

Section 6.2: Solving Equations

Date _____

Solve each equation.

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

$x = 6$

~~$x + 1 = 3x - 11$~~

~~$1 = 2x - 11$~~

~~$\frac{12}{2} = \frac{2x}{1}$~~

$6 = x$

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

$n = 5$

~~$6 + 7n = 11 + 6n$~~

~~$6 + n = 11 - 6$~~

$n = 5$

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

$n = 2$

~~$-7n + 2 = -12 - 2 + 4n$~~

~~$-7n + 2 = -20 + 4n$~~

~~$2 = -20 + 11n$~~

~~$\frac{22}{11} = \frac{11n}{11}$~~

$2 = n$

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

$n = 5$

~~$9 = 3n - 6$~~

~~$\frac{15}{3} = \frac{3n}{3}$~~

$5 = n$

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

$x = -3$

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

$$-8 + x = 1 + 4x$$

$$-8 = 1 + 3x$$

$$\frac{-9}{3} = \frac{3x}{3}$$

$$-3 = x$$

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

$x = 6$

$$34 - 5x = 4x - 20$$

$$34 = 9x - 20$$

$$\frac{54}{9} = \frac{9x}{9}$$

$$6 = x$$

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

$v = 2$

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

$$4v + 1 = 13v - 17$$

$$1 = 9v - 17$$

$$\frac{18}{9} = \frac{9v}{9}$$

$$2 = v$$

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

$n = 3$

$$6 - 18n = -27 - 7n$$

$$6 = -27 + 11n$$

$$\frac{33}{11} = \frac{11n}{11}$$

$$3 = n$$

9) $-5(p-1) = 8-4p$ p = -3

$$-5p + 5 = 8 - 4p$$

$$5 = 8 + p$$

$$-3 = p$$

10) $-40 + 4x = -8(-4 + 4x)$ x = 2

$$-40 + 4x = 32 - 32x$$

$$-40 + 36x = 32 + 40$$

$$\frac{36x}{36} = \frac{72}{36}$$

$$x = 2$$

11) $-13 - 7r = -6(-5r - 4)$ r = -1

$$-13 - 7r = 30r + 24$$

$$-13 = 37r + 24$$

$$\frac{-37}{37} = \frac{37r}{37}$$

$$-1 = r$$

12) $-20 - m = 2(2 + m)$ m = -8

$$-20 - m = 4 + 2m$$

$$-20 = 4 + 3m$$

$$\frac{-24}{3} = \frac{3m}{3}$$

$$-8 = m$$

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

$$-42 - 32b = 5b - 5$$

$$-42 = 37b - 5$$

$$\frac{-37}{37} = \frac{37b}{37}$$

$$-1 = b$$

14) $-\frac{49}{6} + \frac{9}{4}v = \frac{9}{4}v - \frac{7}{2}v$ v = $\frac{7}{3}$

$$-98 + 27v = 27v - 42v$$

$$-98 + 21v = -15v$$

$$-98 + 42v = 0$$

$$\frac{42v}{42} = \frac{98}{42}$$

$$v = \frac{7}{3}$$

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

$$18v - 100 = 2 - 36v + 105v$$

$$18v - 100 = 2 + 69v - 18v$$

$$-100 = 2 + 51v$$

$$-100 = \frac{51v}{31}$$

$$-2 = v$$

$$17) 2m - \frac{6}{5}m = -\frac{5}{3}m \quad \boxed{m = 0}$$

$$30m - 18m = -25m$$

$$12m = -25m + 23m$$

$$\frac{37m}{37} = 0$$

$$m = 0$$

$$16) -x + x = 2x \quad \boxed{x = 0}$$

$$0 = \frac{2x}{2}$$

$$0 = x$$

$$18) \frac{25}{36} - \frac{23}{6}v = -5v + \frac{9}{4} \quad \boxed{v = \frac{4}{3}}$$

$$25 - 138v = 180v + 81$$

$$25 + 42v = 81 - 25$$

$$\frac{42v}{42} = \frac{56}{42}$$

$$v = \frac{4}{3}$$