$24/24 = 100$

Name _Key_   Date _____

SHOW ALL WORK ON QUIZ. For full credit do the following: 1.) Solve the equation for the specified variable, 2.) State which Algebra Power is being used per line, and 3.) Check the solution in the orginal (#1, #2, and #3).

Solve the equation.

1) $\dfrac{3(y-2)}{5} = 1 - 3y$; for y   LCD: 5

$5\left(\dfrac{3(y-2)}{5} = 1 - 3y\right)$

$3(y-2) = 5 - 15y$ Dist LCD

$3y - 6 = 5 - 15y$ Dist
     A. A.

$18y = 11$

$\boxed{y = \dfrac{11}{18}}$ M. A.

Check:

$\dfrac{\overset{1}{3}\left(\dfrac{11}{\underset{6}{18}} - 2\right)}{5} = 1 - \overset{1}{3}\left(\dfrac{11}{\underset{6}{18}}\right)$

$= 1 - \dfrac{11}{6}$

$\dfrac{\frac{11}{6} - \frac{2}{1}}{5} = \dfrac{\frac{6}{6} - \frac{11}{6}}{}$

$\dfrac{\frac{11-12}{6}}{5} = -\dfrac{5}{6}$

$\dfrac{-\frac{1}{6}}{5}$

$-\dfrac{1}{6} \cdot \dfrac{1}{5}$

$-\dfrac{5}{6} = -\dfrac{5}{6}$ ✓

2) $0.60x - 0.30(60 + x) = 0.05(60)$; for x   LCD: 100

$100(0.60x - 0.30(60 + x) = 0.05(60))$

$60x - 30(60 + x) = 5(60)$ Dist LCD

$60x - 1800 - 30x = 300$ Assoc/Com

$30x = 2100$ A. A.

$\boxed{x = 70}$ M. A.

Check:

$0.60(70) - 0.30(60 + 70) = 0.05(60)$

$42 - 0.30(130) = 3$

$42 - 39 = 3$

$3 = 3$ ✓

3) $-4x + 6(2x - 6) = -22 - 6x$; for x

$-4x + 12x - 36 = -22 - 6x$ Dist

$8x - 36 = -22 - 6x$ Assoc

$14x = 14$ M. A.

$\boxed{x = 1}$

Check:

$-4(1) + 6(2(1) - 6) = -22 - 6(1)$

$-4 + 6(-4) = -22 - 6$

$-4 - 24 = -28$

$-28 = -28$ ✓

Solve the formula for the specified variable.

4) $S = 2\pi rh + 2\pi r^2$ for h

$\dfrac{S - 2\pi r^2}{2\pi r} = \dfrac{2\pi r h}{2\pi r}$ A. A.

$\dfrac{S - 2\pi r^2}{2\pi r} = h$ M. A.

1

1) $\dfrac{11}{18}$

2) 70

3) 1

4) $h = \dfrac{S - 2\pi r^2}{2\pi r}$

24/24=100

Foundations of College Algebra
Spring 2017
Quiz #5 - M. Goodroe

Name *Key* Date_____

SHOW ALL WORK ON QUIZ. For full credit do the following: 1.) Solve the equation for the specified variable, 2.) State which Algebra Power is being used per line, and 3.) Check the solution in the orginal (#2, #3, and #4).

Solve the formula for the specified variable.

1) $P = s_1 + s_2 + s_3$ for s_3

$$P - s_1 - s_2 = s_3 \quad A. \, S.$$

Solve the equation.

2) $0.80x - 0.30(40 + x) = 0.70(40)$; for x LCD: 100

$$100\left[0.80x - 0.30(40 + x) = 0.70(40)\right]$$
$$80x - 30(40 + x) = 70(40) \quad \text{Dist } LCD$$
$$80x - 1200 - 30x = 2800 \quad \text{Dist}$$
$$50x - 1200 = 2800 \quad \text{Assoc/Com}$$
$$50x = 4000 \quad A. \, S.$$
$$\boxed{x = 80} \quad M. \, S.$$

$$0.80(80) - 0.30(40 + 80) = 28$$
$$64 - 0.30(120) = 28$$
$$64 - 36 = 28$$
$$28 = 28 \checkmark$$

3) $-2x + 2(-2x - 4) = -10 - 4x$; for x

$$-2x - 4x - 8 = -10 - 4x \quad \text{Dist}$$
$$-6x - 8 = -10 - 4x \quad \text{Assoc/Com}$$
$$2 = 2x \quad A. \, S.$$
$$\boxed{1 = x} \quad M. \, S.$$

$$-2(1) + 2(-2(1) - 4) = -10 - 4(1)$$
$$-2 + 2(-6) = -10 - 4$$
$$-2 + (-12) = -14$$
$$-14 = -14 \checkmark$$

4) $\dfrac{4(7 - x)}{3} = x$; for x LCD: 3

$$3\left[\frac{4(7 - x)}{3} = x\right]$$
$$4(7 - x) = 3x \quad \text{Dist } LCD$$
$$28 - 4x = 3x \quad \text{Dist}$$
$$28 = 7x \quad A. \, S.$$
$$\boxed{4 = x} \quad M. \, S.$$

$$\frac{4(7 - 4)}{3} = 4$$
$$\frac{4(3)}{3} = 4$$
$$4 = 4 \checkmark$$

1

1) $s_3 = P - s_1 - s_2$
2) 80
3) 1
4) 4

Foundations of College Algebra
Spring 2017
Quiz #5 - M. Goodroe

Name _Key_ Date_____

SHOW ALL WORK ON QUIZ. For full credit do the following: 1.) Solve the equation for the specified variable, 2.) State which Algebra Power is being used per line, and 3.) Check the solution in the orginal (#1, #2, and #3).

Solve the equation.

1) $0.50x - 0.20(30 + x) = 0.40(30)$; for x $LCD: 100$

$100(0.50x - 0.20(30+x)) = 0.40(30))$

$50x - 20(30+x) = 40(30)$ Dist LCD

$50x - 600 - 20x = 1200$ Dist

$30x - 600 = 1200$ Assoc/Com

$30x = 1800$ A.A.

$\boxed{x = 60}$ M.A.

$0.50(60) - 0.20(30+60) = 12$

$30 - 0.20(90) = 12$

$30 - 18 = 12$

$12 = 12$ ✓

2) $-3x + 3(2x - 3) = 1 - 7x$; for x

$-3x + 6x - 9 = 1 - 7x$ Dist

$3x - 9 = 1 - 7x$ Assoc.

$10x = 10$ A.A.

$\boxed{x = 1}$

$-3(1) + 3(2(1) - 3) = 1 - 7(1)$

$-3 + 3(-1) = 1 - 7$

$-3 + (-3) = -6$

$-6 = -6$ ✓

3) $\frac{13}{10}x + \frac{1}{5} = \frac{6}{5}x$ $LCD: 10$

$10\left(\frac{13}{10}x + \frac{1}{5} = \frac{6}{5}x\right)$

$13x + 2 = 12x$ Dist LCD

$\boxed{x = -2}$ A.A.

$\frac{13}{10} \cdot (-2) + \frac{1}{5} = \frac{6}{5} \cdot (-2)$

$-\frac{13}{5} + \frac{1}{5} = -\frac{12}{5}$

$\frac{-13+1}{5}$

$-\frac{12}{5} = -\frac{12}{5}$ ✓

Solve the formula for the specified variable.

4) $V = \frac{1}{3}Bh$ for h $LCD: 3$

$3\left(V = \frac{1}{3}Bh\right)$

$3V = Bh$ Dist LCD

$\boxed{\frac{3V}{B} = h}$ M.A.

1

1) 60
2) 1
3) −2
4) $h = \dfrac{3V}{B}$