12/15/17

NAME: Pfahler - Key

Hour:_____

Solving Equations Study Guide

Solve. Show ALL your work.

1. $2 + 6z = 5 + 3z$

$-2 \quad -3z \quad -2 \quad -3z$

$\frac{3z}{3} = \frac{3}{3}$

$z = 1$

2. $2(h - 8) - h = h - 16$

$2h - 16 - h = h - 16$

$h - 16 = h - 16$

$-h \qquad -h$

$-16 = -16$

Infinite Solutions

3. $(4)\ 7 = \frac{x}{4}(4)$

$28 = x$

4. $-\frac{z}{5} + 4 = 3$

$-4 \quad -4$

$(-5)\ -\frac{z}{5} = -1(-5)$

$z = 5$

5. $-2(5v + 3) = 5v + 24$

$-10v - 6 = 5v + 24$

$+10v \quad -24 \quad +10v \quad -24$

$\frac{-30}{15} = \frac{15v}{15}$

$v = -2$

6. When Betty attempts to solve the equation $4x + 32 = 8(\frac{1}{2}x - 4)$, her last step shows 32 = -32. Is Betty correct? Why or why not? Show your work and Explain.

$4x + 32 = 8(\frac{1}{2}x - 4)$

$4x + 32 = 4x - 32$

$-4x \qquad -4x$

$32 = -32$ ✓

She is correct. Use distributive prop., and inverse operations to get rid of the variable.

7. $3w + 4 - w = 2(w - 2) + w$

$2w + 4 = 2w - 4 + w$

$2w + 4 = 3w - 4$

$-2w + 4 \quad -2w + 4$

$8 = w$

8. $7y + 9 = 7y - 6$

$-7y \qquad -7y$

$9 \neq -6$

NO Solutions

9. $3p - 1 = 5(p - 1) - 2(7 - 2p)$

$3p-1 = 5p-5-14+4p$

$3p-1 = 9p-19$

$-3p+19 \quad -3p+19$

$\frac{18}{6} = \frac{6p}{6}$ $\quad p=3$

10. $4.7x + 3.8 = 13.2$

$-3.8 \quad -3.8$

$\frac{4.7x}{4.7} = \frac{9.4}{4.7}$

$x=2$

11. $-4x-9 = -5-6x$

$+6x \quad +9 \quad +9 \quad +6x$

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

$x=2$

12. $3(y-5)+2 = 5$

$3y-15+2=5$

$3y-13=5$

$+13 \quad +13$

$\frac{3y}{3} = \frac{18}{3}$ $\quad y=6$

13. $4(y+2) = 32$

14. Tomas has saved $204 to purchase a new smartphone that costs $500. He intends to earn the rest of t he money he needs by doing odd jobs at $8 per hour.

Solve the equation 8h + 204 = 500 to find how many hours, h, Tomas will have to work in order to have enough money to purchase the phone.

$8h+204=500$

$-204 \quad -204$

$\frac{8h}{8} = \frac{296}{8}$

$h = 37$ hours

15. $-6y+14+4y = 32$

$-14 \quad -14$

$\frac{-2y}{-2} = \frac{18}{-2}$

$y=-9$