Warmup:

Solve for x:

8 - 2|3x - 4| = -24

$-8 \qquad -8$

$$\frac{-2|3x-4|}{-2} = \frac{-32}{-2}$$

$$|3x-4| = 16$$

$$3x-4 = 16$$
$$\underline{+4 \quad +4}$$
$$\frac{3x}{3} = \frac{20}{3}$$
$$x = \frac{20}{3}$$

$$3x-4 = 16$$
$$+4 \quad +4$$
$$3x = -12$$
$$x = -4$$

$$\therefore x = \left\{\frac{20}{3}, -4\right\}$$

Homework Check:

17. $r = 13$ or $r = 3$

18. $c = 2$ or $c = -10$

19. $g = -1$ or $g = -5$

20. $m = 1$ or $m = -5$

21. no solution

22. $w = 2$ or $w = -2$

23. $v = 6$ or $v = 0$

24. $d = 0$ or $d = -8$

25. $f = 1.5$ or $f = -2$

26. no solution

27. $y = 3$ or $y = 0$

28. $x = 1$ or $x = -5$

29. no solution

30. $n = 2$ or $n = -2$

31. no solution

Literal Equations - Equations that contain more then one variable

Solve for W:
A = 2L + W

$$A - 2L = W$$

Solve for x:
y = 5x - 6

$$+6 \qquad +6$$

$$\frac{y+6}{5} = \frac{5x}{5}$$

$$\frac{y+6}{5} = x$$

Solve for y: $2x - 3y = 8$

$-2x \qquad -2x$

$\dfrac{-3y}{-3} = \dfrac{8 - 2x}{-3}$

$y = \dfrac{8 - 2x}{-3}$

Solve for x : $\dfrac{x + y}{3} = 5$

$3 \cdot \dfrac{x + y}{3} = 5 \cdot 3$

$x + y = 15$

$x = 15 - y$

Solve for L: $A = \dfrac{R}{2L} \cdot L$

$\dfrac{1}{A} \cdot LA = \dfrac{R}{2} \cdot \dfrac{1}{A} \qquad L = \dfrac{R}{2A}$

Solve for I: $R = \dfrac{E}{I}$

Solve for b: $A = \frac{1}{2}hb + c$

Solve for r: $V = 5r^2h$

$$A - c = \frac{1}{2}hb$$

$$2(A-c) = \left(\frac{1}{2}hb\right)2$$

$$\frac{2(A-c)}{h} = \frac{hb}{h}$$

$$\frac{2(A-c)}{h} = b$$

$$\frac{V}{5h} = \frac{5r^2h}{5h}$$

$$\frac{V}{5h} = r^2$$

$$\sqrt{\frac{V}{5h}} = r$$

Solve for x: $m(3x - 4) = y$

$$\frac{m(3x-4)}{m} = \frac{y}{m}$$

$$3x - 4 = \frac{y}{m}$$
$$+4 \qquad +4$$

$$\frac{3x}{3} = \frac{\left(\frac{y}{m} + 4\right)}{3}$$

$$x = \frac{\frac{y}{m} + 4}{3}$$

Solve for y: $C = \dfrac{4}{3}y - b$

$\left(\dfrac{3}{4}\right)(C+b)\cdot{}^{+b}\ \dfrac{4}{3}y\left(\dfrac{3}{4}\right)$

$\dfrac{3}{4}(C+b) = y$

Solve for z: $x = \dfrac{yz}{6}$

$\dfrac{6x}{y} = \dfrac{yz}{y}$

$\dfrac{6x}{y} = z$

Solve for y: $(12x^2 - 4y^2 = 20) \div 4$

$-3x^2 + y^2 = 5$

$\sqrt{y^2} = \sqrt{5 + 3x^2}$

$y = \sqrt{-5 + 3x^2}$

$(12x^2 - 4y^2 = 20) \div 4$

$3x^2 - y^2 = 5$

$-y^2 = 5 - 3x^2$

$\sqrt{y^2} = \sqrt{5 + 3x^2}$

$y = \sqrt{-5 + 3x^2}$

$$|r - 8| = 5$$

$$r - 8 = 5$$
$$+ 8 \quad + 8$$
$$r = 13$$

$$r - 8 = -5$$
$$+ 8 \quad + 8$$
$$r = 3$$

21.) $(-2)|7d| = \dfrac{14}{-2}$

$|7d| = -7$

No Solution

26) $|3t - 2| + 6 = 2$

$|3t - 2| = -4$

No Solution