

Solving Literal Equations

Name: _____

Key

Solve each equation for the given variable. Show your work!!!

1. $I = PRT$ for T
 $\frac{I}{PR} = \frac{PRT}{PR}$

$$\frac{I}{PR} = T$$

$$T = \frac{I}{PR}$$

3. $a - c = d - r$ for a
 $+c$ $+c$

$$a = d - r + c$$

5. $A = 2\pi r^2 + 2\pi rh$ for h

$$-2\pi r^2 \quad -2\pi r^2$$

$$\frac{A - 2\pi r^2}{2\pi r} = \frac{2\pi rh}{2\pi r}$$

$$h = \frac{A - 2\pi r^2}{2\pi r} \quad \text{or} \quad \frac{A}{2\pi r} - r$$

7. $P = 2(l + w)$ for l

$$P = 2l + 2w$$
$$-2w \quad -2w$$

$$\frac{P - 2w}{2} = \frac{2l}{2}$$

$$l = \frac{P - 2w}{2} \quad \text{or} \quad \frac{P}{2} - w$$

9. $xy + xz = w$ for x

$$x \frac{(y+z)}{y+z} = \frac{w}{y+z}$$

$$x = \frac{w}{y+z}$$

2. $C = \pi d$ for d
 π π

$$d = \frac{C}{\pi}$$

4. $ax + by = c$ for y
 $-ax$ $-ax$

$$\frac{by}{b} = \frac{c - ax}{b}$$

$$y = \frac{c - ax}{b}$$

6. $A = p(1 + rt)$ for t

$$A = p + prt$$
$$-p \quad -p$$

$$\frac{A - p}{prt} = \frac{prt}{pr}$$

$$t = \frac{A - p}{pr}$$

8. $A = \frac{a+b}{2}$ for b
 2 2 2

$$2A = a + b$$
$$-a \quad -a$$

$$2A - a = b$$

$$b = 2A - a$$

10. $g = 2h - hg$ for h

$$\frac{g}{2-g} = \frac{h(2-g)}{2-g}$$

$$h = \frac{g}{2-g}$$

Literal Equations

Solve each equation for y . Then find the value of y for each value of x .

1. $y + 5x = 6$; $x = -1, 0, 1$

$-5x \quad -5x$
 $y = -5x + 6$

x	y
-1	11
0	6
1	1

2. $8x - 4y = -12$; $x = -3, -1, 1$

$-8x \quad -8x$
 $-4y = -8x - 12$
 $\frac{-4y}{-4} = \frac{-8x}{-4} - \frac{12}{-4}$
 $y = 2x + 3$

x	y
-3	-3
-1	1
1	5

3. $-3y = 2x - 9$; $x = -3, 0, 3$

$\frac{-3y}{-3} = \frac{2x}{-3} - \frac{9}{-3}$
 $y = -\frac{2}{3}x + 3$

x	y
-3	5
0	3
3	1

4. $5x = -y + 6$; $x = 1, 2, 3$

$+y \quad +y$
 $y + 5x = 6$
 $-y = -5x + 6$
 $y = -5x + 6$

x	y
1	1
2	-4
3	-9