Name: Answers Period: _____

# 1.4 -- Rewriting Equations and Formulas:

Solve each equation for ***y***.

1) $y - 5 = -15$

$+5 \quad +5$

$y = -10$

2) $2y + 4 = 4y - 14$

$-2y \quad -2y$

$4 = 2y - 14$

$+14 \quad +14$

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

$9 = y$

Solve each *literal equation* for ***y***.

3) $y - x = 1$

$+x \quad +x$

$y = x + 1$

4) $2y + x = -8$

$-x \quad -x$

$\frac{2y}{2} = \frac{-x-8}{2}$

$y = -\frac{1}{2}x - 4$

5) $\frac{2}{3}x + y = 3$

$-\frac{2}{3}x \quad -\frac{2}{3}x$

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

6) $16 = 8x + 4y$

$-8x \quad -8x$

$\frac{-8x + 16}{4} = \frac{4y}{4}$

$-2x + 4 = y$

7) $2y - 3x = y + 6$

$-y \quad -y$

$y - 3x = 6$

$+3x \quad +3x$

$y = 3x + 6$

8) $3x + \frac{1}{5}y = 7$

$-3x \quad -3x$

$5 \cdot \frac{1}{5}y = (-3x + 7) \cdot 5$

$y = -15x + 35$

Solve each *literal equation* for the given variable.

9) $d = rt$ (solve for t)

$\frac{d}{r} = t$

10) $r - c = p$ (solve for r)

$r = p + c$

11) $V = Bh$ (solve for h)

$\frac{V}{B} = h$

12) $2 \cdot g = \frac{1}{2}(w + 40)$ (solve for w)

$2g = w + 40$

$2g - 40 = w$

13) $P = 2W + 2L$ (solve for L)

$\frac{P - 2W}{2} = \frac{2L}{2}$

$\frac{1}{2}P - W = L$

14) $y = mx + b$ (solve for m)

$\frac{y - b}{x} = \frac{mx}{x}$

$\frac{y}{x} - \frac{b}{x} = m$

15) To find an amount of income you use the formula: $P = I - E$. Where P represents the amount of profit, I represents the Income earned, and E represents Expenses paid by the company.

a) Solve the formula for I

$P = I - E$

$P + E = I$

b) If a company's expenses for a month are \$35,000 and they earn a profit of \$101, 550 what was the company's total amount of income?

$101,550 + 35,000 = \$136,550$

c) Why was it helpful to solve for I first when solving problem "b"?

You didn't have to do much work if you solve for I.