2.2 Solving For a Variable in Terms of Another Variable

literal equation - contains more than one variable.

Ex: $ax + y = c$

Consider: $4x + 3 = 15$ vs. $ax + b = c$

$4x = 15 - 3$

$\boxed{4x = 12}$

$x = \frac{12}{4}$

$\boxed{x = 3}$

$ax = c - b$

$x = \frac{c-b}{a}$

Practice:

1. Solve for l: $P = 2l + 2w$

$P - 2w = 2l$

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

2. Solve for c: $m = 2a + 3c$

$m - 2a = 3c$

$\frac{m-2a}{3} = c$

3. Solve for w: $V = lwh$

$\frac{V}{lh} = w$

4. Solve for y: $4y - 3n = 5n$

$4y = 5n + 3n$

$4y = 8n$

$y = \frac{8n}{4}$

$y = 2n$

5. Solve for x: $8x - 4a = 3x + 16a$

$8x = 3x + 16a + 4a$

$8x = 3x + 20a$

$8x - 3x = 20a$

$5x = 20a$

$x = \frac{20a}{5}$

$x = 4a$

6. Solve for b: $10b + 3c = 4b + 9c$

$10b = 4b + 9c - 3c$

$10b = 4b + 6c$

$10b - 4b = 6c$

$6b = 6c$

$b = \frac{6c}{6}$

$b = c$

7. Solve for t: $\frac{d}{t} = r$

$d = rt$

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

8. Solve for x: $B = \frac{c(x+d)}{7}$

$7B = c(x+d)$

$7B = c(x) + c(d)$

$7B = cx + cd$

$7B - cd = cx$

$\frac{7B-cd}{c} = x$

HOMEWORK

Worksheet - HW 2.2