9

Solving Literal Equations

*Isolate the desired variable

1. $P = 2L + 2w$ Solve for w.

$-2L \quad -2L$

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

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

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

2. Solve $2y + xy = 6$ for y.

$\frac{y(2+x)}{(2+x)} = \frac{6}{(2+x)}$

$y = \frac{6}{2+x}$

Caution

$\frac{6}{2+x} \neq \frac{6}{2} + \frac{6}{x}$

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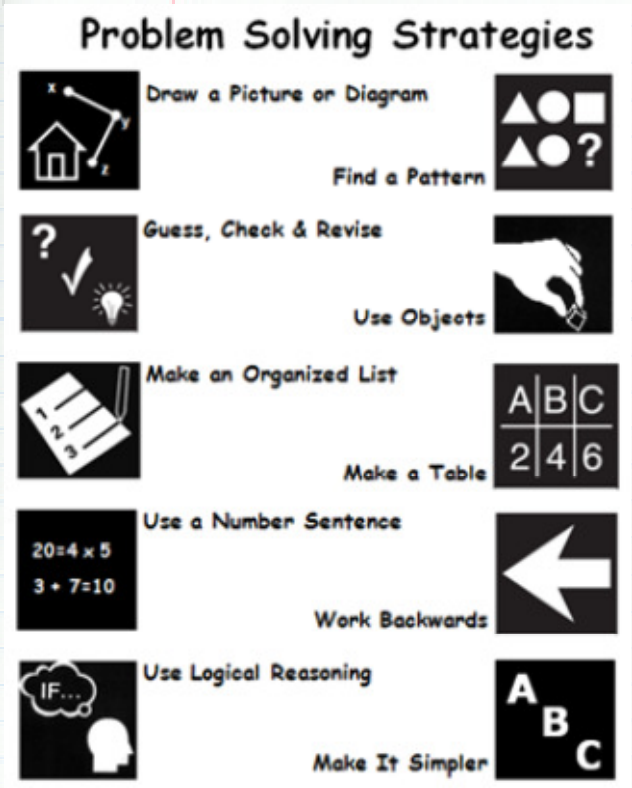
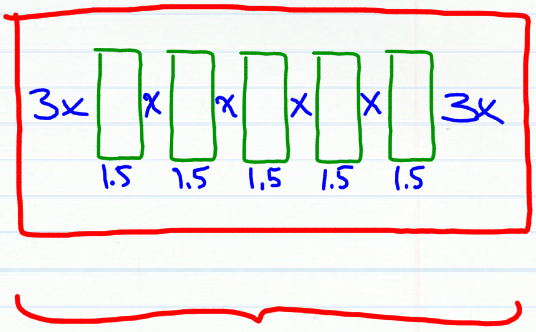
Problem Solving Strategies



POSTERS You want to tape five posters on a wall so that the spaces between posters are the same. You also want the spaces at the left and right of the group of posters to be three times the space between any two adjacent posters. The wall is 15 feet wide and the posters are 1.5 feet wide. Draw a diagram and then write and solve an equation to find how to position the posters.



15 ft.

$10x + 5(1.5) = 15$

$10x + 7.5 = 15$

$-7.5 \quad -7.5$

$\frac{10x}{10} = \frac{7.5}{10}$

$x = 0.75$ ft.

$\frac{3}{4}$ ft. $= 9$ in.

10 A Problem to Solve

CHALLENGE You are hanging fliers around a cylindrical kiosk that has a diameter of 5 feet. You want to hang 15 fliers that are 8.5 inches wid are evenly spaced. How far apart should the fliers be placed?