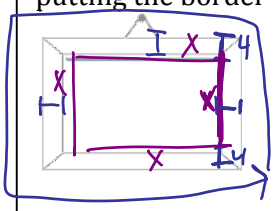
Math 8: Unit 10

10.4 – a (x +b) = c

You are framing a picture for your bedroom. You want the picture to have a 4 cm wide border around it. The perimeter of the frame is 600 cm. How long is each side of the picture before putting the border on it?



Equation

Let x rep length

$600 = 4(x+8)$

$P = s_1 + s_2 + s_3 + s_4$

$= 4(s)$

For equations of the form $a(x + b) = c$ we can solve two methods.

SAME EB

Method 1: Divide First

Isolate the variable *s*.

$\frac{4(s + 8)}{4} = \frac{600}{4}$

$s + 8 = 150$

$-8 \quad -8$

$s = 142$

Method 1: Divide first a (*x* + b) = c

Isolate the variable on one side of the equal sign by dividing everything by the "a" -4

Example:

$\frac{-4(x - 7)}{-4} = \frac{16}{-4}$

$x - 7 = -4$

$+7 \quad +7$

$x = 3$

Practice:

$\frac{2(x - 3)}{2} = \frac{12}{2}$

$x - 3 = 6$

$+3 \quad +3$

$x = 9$

$\frac{-20}{5} = \frac{5(3 + p)}{5}$

$-4 = 3 + p$

$-3 \quad -3$

$-7 = p$