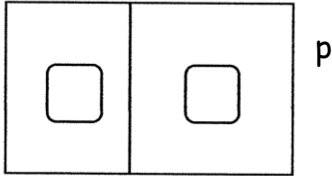# Distributive property and Solving Equations

Name: _____ Class: _____

Fill in the missing information for each: dimensions, area as a product, and area as a sum.

1.

P   6

p

Dimensions:

Length:
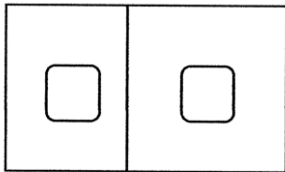
Width:
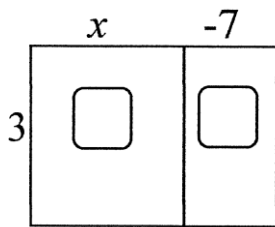
Area as product:

Area as sum:

2.

9   m

Dimensions:

Length:

Width:

Area as product:

Area as sum:

3.

x -7

3

Dimensions:

Length:

Width:

Area as product:

Area as sum:

4.

a

a^2 | $-3a$

Dimensions:

Length:

Width:

Area as product:
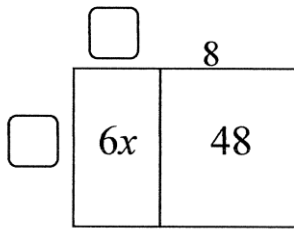
Area as sum:

5.

8

$6x$ | 48
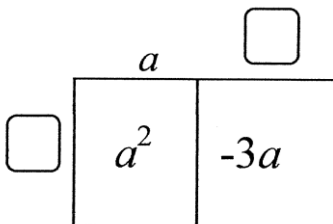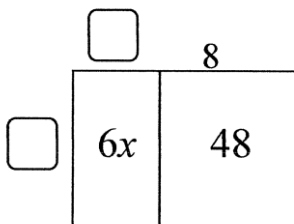
Dimensions:

Length:

Width:

Area as product:

Area as sum:

Now, let's take it a step further. We will use the concept of distributive property to solve an equation.

We can use the area model to help us solve an equation by distributing first, then solving for the variable.

In the problem at the left, the total area of both rectangles is 72 sq. units.

We can solve to find the value for x.

1) Our equation looks like this:
   $6(x + 8) = 72$
2) We rewrite the distributive step to give us:
   $6x + 6\text{x}8 = 72$
3) We simplify the expression to:
   $6x + 48 = 72$
4) Please solve the two-step equation below:

Solve by distributing first (rewrite the distributive/multiplication step and simplify). The solve the two-step equation using your awesome equation solving skills!

6. $5(x - 4) = 40$

7. $3(2x + 5) = 39$

8. $-4(8 + 5n) = 8$

9. $2(6k - 1) = -38$

10. $-2(5 + 6m) = -106$

11. $-5(6v - 1) = -85$