Warm-Up

Simplify the following:

1. a) $(3+1) - 22 \div 11$ b) $2^5 - 3^2$ c) $\dfrac{3 \times 4 - 6 \times 3}{16 \div 8 - 2 \times 4}$

Substitution

In math, this means replacing a variable (usually a letter) with a given value in order to complete a calculation.

Examples:

Find the value of each expression if $h = 3$ and $k = 4$

1. a) $3h - 5$ b) $2(h+4)$

c) $h^2 - 2$ d) $(h+4)^2$

e) $h^2 + k^2$ f) $5(h+k)^2$
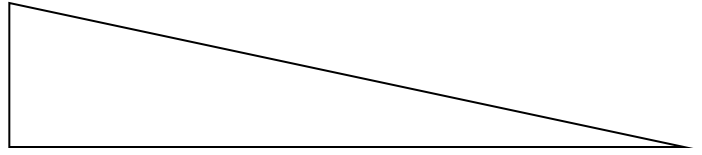
g) hk h) $3hk$

i) $(hk)^2$

Pythagorean Theorem
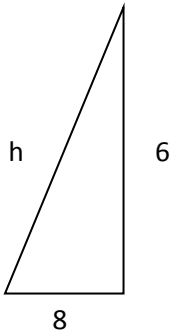
Recall:

For a right angle triangle,

$(hypotenuse)^2 = (side1)^2 + (side2)^2$

OR

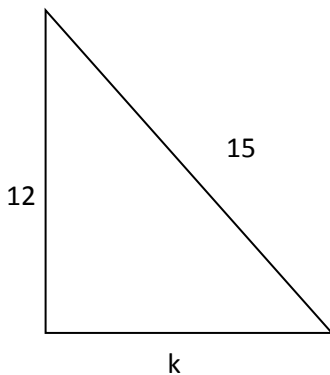$(side1)^2 = (hypotenuse)^2 - (side2)^2$

Examples:

Write the equation for the Pythagorean property, then solve for the length of the missing side.

1. a)

h

6

8

b)

15

12

k

2. A 3m tall ladder leans against a building so that the top of the ladder touches the top of the building. If the bottom of the ladder is 1m from the base of the building, how tall is the building?

Homework: p.23 #1-4 (odd parts), 5-8 p.25 #1-3 p.27 #2, 3, 5, 7