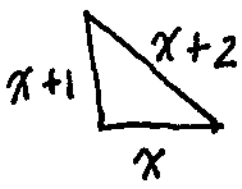
3. Let x = length of first side



$$x^2 + (x+1)^2 = (x+2)^2$$

$$x^2 + (x+1)(x+1) = (x+2)(x+2)$$

$$x^2 + x^2 + 2x + 1 = x^2 + 4x + 4$$

$$2x^2 + 2x + 1 = x^2 + 4x + 4$$

$$x^2 - 2x - 3 = 0$$

$$(x-3)(x+1) = 0$$

$x = 3$ ~~$x = -1$~~

Can not be negative.

3, 4, 5

The sides are 3, 4, + 5 inches.

5. Let l = length

w = width

$l = 2w + 8$ feet more than twice width.

Area: $(2w+8)w = 10$

$2w^2 + 8w = 10$

$2w^2 + 8w - 10 = 0$ set equal to zero.

$2(w^2 + 4w - 5) = 0$

$2(w+5)(w-1) = 0$ try factoring.

~~$w = -5$~~ $w = 1$

$w =$ 1 foot

$l =$ 10 feet.