

**Answer to Question #84739 – Math – Algebra**

**Question**

The length of a rectangular dog run is 4ft more than twice its width. Find the dimensions of the run if it's covers 96 ft <sup>2</sup>.

**Solution**

Let  $x$  = the width

Let  $2x + 4$  = the length

$$A = lw$$

$$96 = x(2x + 4)$$

$$96 = 2x^2 + 4x$$

$$2x^2 + 4x - 96 = 0$$

$$x^2 + 2x - 48 = 0$$

$$(x - 6)(x + 8) = 0$$

$x - 6 = 0$  or  $x + 8 = 0$      $x = -8$  is rejected because the width should be positive

$x = 6$  feet is the width;

$2(6) + 4 = 16$  feet is the length.

**Answer:** 6 feet and 16 feet.

Answer provided by <https://www.AssignmentExpert.com>