

Problem #6639 The area of a rectangle is 108 cm squared. The ratio of the width to the length is 3 : 4. Find the length and the width.

Solution Denote by a — the width of rectangle, by b — the length. Then, one can obtain the following equalities: $ab = 108$, $a/b = 3/4$. Hence $a = 3/4b$. From the first, one can get $b^2 = 4 \cdot \frac{108}{3} = 4 \cdot 36$. Thus $b = 2 \cdot 6 = 12$, hence $a = 3/4 \cdot 12 = 9$.

Answer Width = 9 and length= 12.