Question

1

The volume of rectangular solid is 810 cm^3. Find it's dimension of they are in the ratio of 2:3:5.

Solution

Let sides of the rectangular solid be $2x, 3x, 5x$. It arises from the ratio $2:3:5$. Now, the volume V will be

$$V = 2x \cdot 3x \cdot 5x = 30x^3 = 810.$$

From this equation we can find x which needed for getting dimensions of the solid.

$$x^3 = 27,$$
$$x = 3.$$

Then $2x = 2 \cdot 3 = 6$ cm, $3x = 3 \cdot 3 = 9$ cm, $5x = 5 \cdot 3 = 15$ cm.

Answer: dimensions of rectangular solid are 6 cm, 9 cm and 15 cm.