

Solve the following multi-step problem. Show all your work.

13. Anisha needs to order a carpet to fit her bedroom. The room is square and the area of the floor is 125.44 ft^2 .

Part A

Does Anisha have walls that are a whole number in length? Explain why or why not.

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Part B

If Anisha orders a rug that is 12 ft long and 12 ft wide, will it fit in her bedroom? Explain why or why not.

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Part C

Given the area of the floor, estimate the length of each wall. Check your estimate. If necessary, continue estimating until you find the actual length.

Show your work.

Answer _____



Take It With You

Squaring a Number

$$5^2 = 5 \cdot 5 = 25$$

Finding the Square Roots of 36

What number times itself equals 36.

The **principal square root** is positive.

$$\sqrt{36} = 6 \cdot 6, \text{ so } \sqrt{36} = 6$$

The **negative square root** is negative.

$$\sqrt{36} = -6$$

A **perfect square** is a whole number that has an integer square root.

$$\sqrt{64} = 8, \text{ so } 64 \text{ is a perfect square.}$$

Estimating Square Roots

- Find two perfect squares that the number falls between.
- Use the known square roots of perfect squares to make a few estimates.
- Square each estimate and compare.
- Adjust the estimate, if needed.

