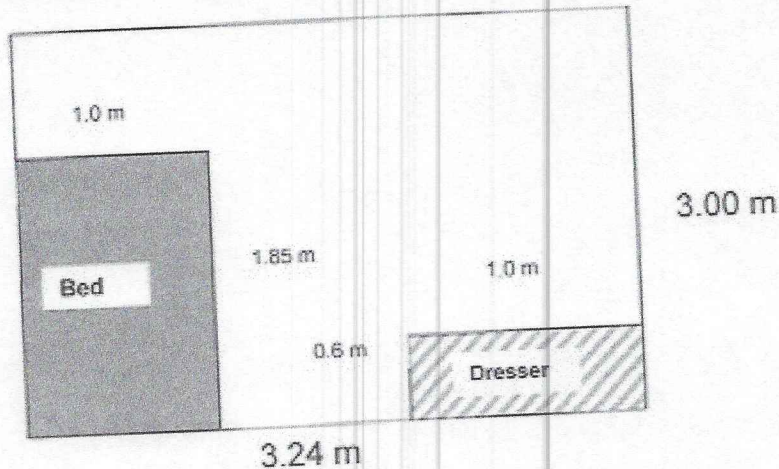


Answers.

## Using Decimal Operations to Figure out Bedroom Space

Below is a diagram of your new bedroom. (Note: The diagram is not exactly to scale.)



1. a) You are going to get flooring for your new room. You need to know the area of the floor in order to determine how much it will cost to buy hardwood floors. What is the area of the room?

$$\begin{aligned} A &= bh \\ &= (3.24)(3) \\ &= 9.72 \text{ m}^2 \end{aligned}$$

- b) The total cost for the hardwood floor was \$425.00. How much did it cost per square metre?

$$\frac{425}{9.72} = \boxed{43.72 \text{ per m}^2}$$

2. a) You are also putting baseboards around the room. Baseboards come in pieces that are 1.5 m long. How many pieces will you need?

$$\begin{aligned} P &= 2(3) + 2(3.24) = \\ &= 6 + 6.48 = \frac{12.48}{1.5} = 8.32 \rightarrow \text{need 9 pieces} \end{aligned}$$

- b) The cost of baseboards is \$8.97 per piece from part a. Estimate, using whole numbers, how much it will cost you to put baseboards in your room. Make a second more accurate estimation that includes a decimal. Explain your thinking.

$$\begin{aligned} \text{Estimate 1} &= \\ 9 \times 9 &= \$81 \end{aligned}$$

$$\begin{aligned} \text{Estimate 2} &= \\ 8.5 \times 9 &= \$76.50 \end{aligned}$$



3. a) A cousin is coming to live with you and you need to share your room with him/her. You have been told that you have to give your cousin half of the room. How much floor space will your cousin get?

$$\frac{\text{Area}}{2} = \frac{9.72}{2} = \boxed{4.86 \text{ m}^2}$$

$$\begin{array}{r} 4.86 \\ 2 \overline{) 9.72} \\ \underline{8} \phantom{00} \\ 17 \phantom{00} \\ \underline{16} \phantom{00} \\ 12 \phantom{00} \\ \underline{12} \phantom{00} \\ 0 \phantom{00} \end{array}$$

- b) Your cousin is bringing a bed and a desk that are the same size as yours. How much floor space will be left in the room after your cousin moves in?

$$\text{Bed} = \frac{(1.85)(1)(2)}{3.7}$$

$$9.72 - 3.7 - 1.2 = \boxed{4.82 \text{ m}^2}$$

$$\text{Dresser} = \frac{(1)(.6)(2)}{1.2}$$

- c) Your parents are bugging you to practice your math. They ask you if you can figure out about what fraction of the room is covered? Explain your thinking to them.  
↳ w/cousin's furniture.

$$3.7 + 1.2 = 4.9$$

$$\frac{4.9}{9.72} = .50 = 50\%$$