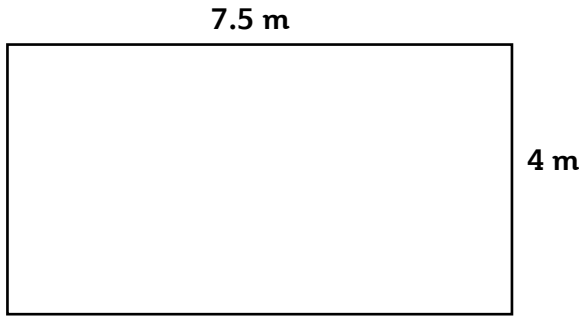


Jamie has just moved house, and his parents have told him he can decorate his new bedroom however he likes!

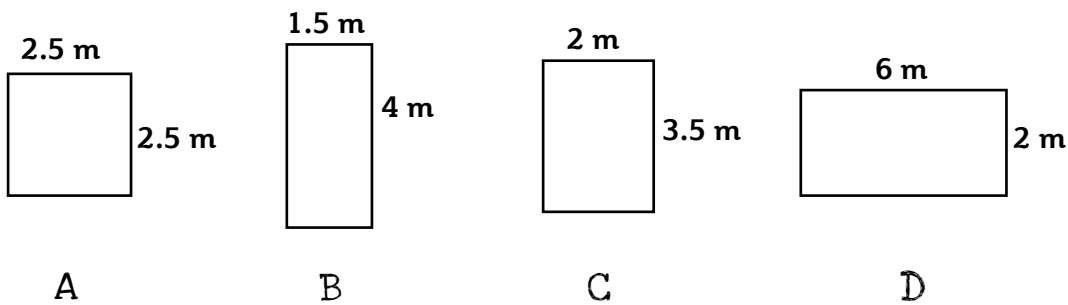
Help him out by solving the area and perimeter problems below.

1. This is a plan of Jamie's bedroom floor (not to scale).



- a) What is the area of Jamie's bedroom?
 _____ m²
- b) What is the perimeter of Jamie's bedroom?
 _____ m

2. Jamie wants a rug that covers exactly $\frac{1}{5}$ of the total area of his bedroom floor. Which rug should he get?



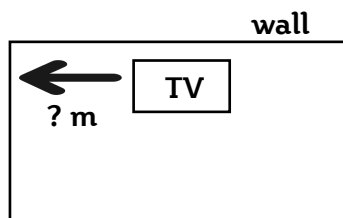
3. Jamie wants to paint the two longest walls of his room bright green. The height of each of these walls is 2 metres. What is the total area of wall that will be painted?

_____ m²

4. The tins of bright green paint cost £4.75 and contain enough paint to cover 6 m². How much will it cost to paint the two bright green walls?

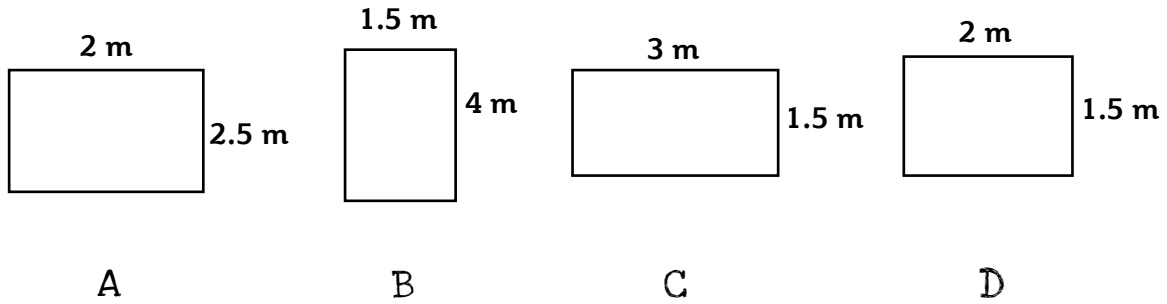
£ _____

5. Jamie has a huge widescreen TV that measures 1.5 m long. He wants to mount the TV so that it sits exactly in the middle of one of the longest walls of his bedroom. What distance should each end of the TV be from the furthest edges of the wall?



_____ m

6. Jamie wants his new bed to be as big as possible, but he still wants at least 27 m² of floor space left when the bed is in his room. Which bed should he buy?

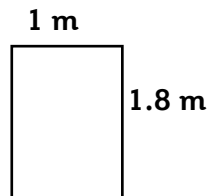


7. Next, Jamie needs to buy some curtains. The total perimeter of his rectangular window is 380 cm. If the window is 120 cm wide, what length of curtains should he buy to make sure they cover the whole window?

- A 68 cm
- B 65 cm
- C 73 cm
- D 58 cm
- E 69 cm

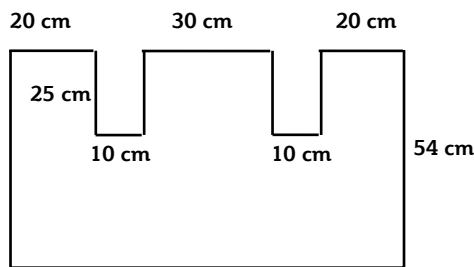


8. Jamie's new bedroom door is shown below. What is its perimeter in centimetres?

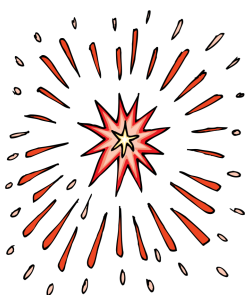


_____ cm

9. Finally, Jamie wants to decorate one of his walls using this wall sticker of a castle. What is the total perimeter of the sticker?

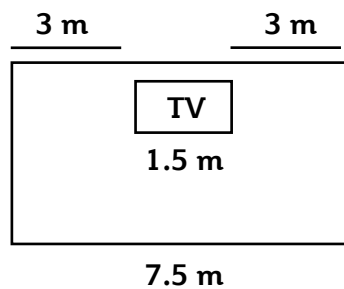


_____ cm



Jamie's New Bedroom
Answers

- 1a. **30 m²**. To find the area of a rectangle, multiply the width by the length. $7.5 \times 4 = 30$.
- 1b. **23 m**. To find the perimeter of a shape, add all of the sides together (don't forget **both** widths and **both** lengths!). $7.5 + 7.5 + 4 + 4 = 23$.
2. **B**. We know from question 1a that the area of Jamie's bedroom floor is 30 m^2 . Divide that by 5 to find one fifth of the area. $30 \div 5 = 6$, so we need to choose the rug that has an area of 6 m^2 , which is rug B ($1.5 \times 4 = 6$).
3. **30 m²**. The longest walls measure 7.5 m (we know this from question 1), and they are 2 m high. So, the area of one of these walls is 15 m^2 ($7.5 \times 2 = 15$). There are two of these walls so we need to double our answer: $15 \times 2 = 30$.
4. **£23.75**. We need 5 tins of paint to cover the total area of the wall, which is 30 m^2 ($6 \times 5 = 30$). $£4.75 \times 5 = £23.75$
5. **3m**. If the wall is 7.5 m long and the TV is 1.5 m long, there would be 3 m of wall either side of the TV if the TV was hung exactly in the middle of the wall.



6. **D**. We already know that the total area of the bedroom floor is 30 m^2 , which means we know that the bed has to have a maximum area of 3 m^2 ($30 - 27 = 3$). So, that means bed D is our answer ($2 \times 1.5 = 3$).
7. **C**. Take both the widths off the total perimeter of the window to find out what the height is on either side. $380 - 120 = 260$, then subtract another 120 (the other width) to leave us with 140 cm. Divide 140 by 2 to work out the height: that's 70 cm. So, the curtains we choose have to be at least 70 cm long, which leaves only option C.
8. **560 cm**. To find the perimeter, we do $1 + 1 + 1.8 + 1.8 = 5.6 \text{ m}$. There are 100 cm in 1 m, so we multiply the answer by 100.
9. **388 cm**. Add all of the sides together, but don't forget the ones that aren't labelled! $20 + 10 + 30 + 10 + 20 = 90$, that means the bottom horizontal side must also be 90, so that's 180. $180 + 54 + 54$ (the two longest vertical sides) = 288, then $288 + 25 + 25 + 25 + 25$ (the remaining vertical sides!) = 388 cm.