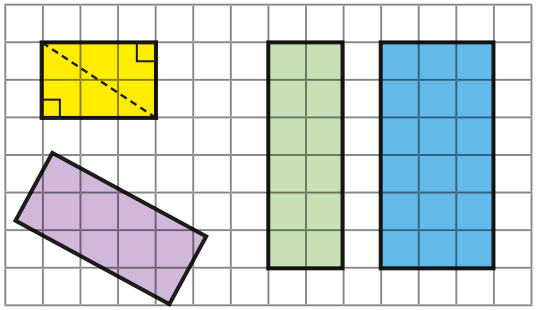
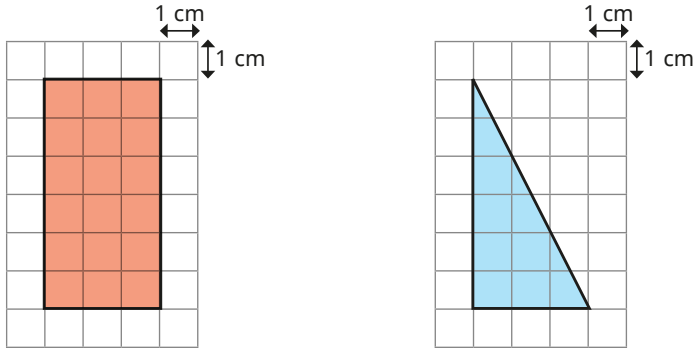
Area of a right-angled triangle

1 Divide each rectangle into two right-angled triangles.

The first one has been done for you.

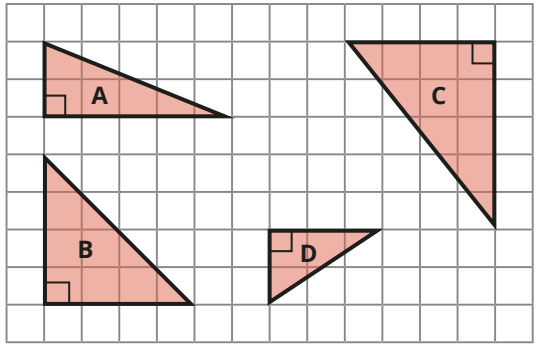


2 **a)** Calculate the areas of the rectangle and the triangle.



b) Explain how you worked out the area of the right-angled triangle.

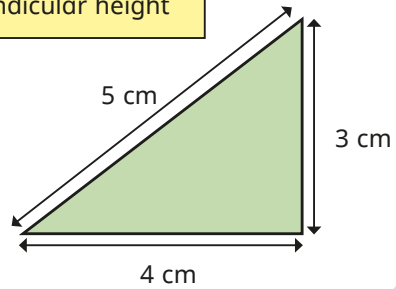
3 Calculate the areas of the right-angled triangles.



4 Whitney uses the formula to calculate the area of the triangle.

area = $\frac{1}{2}$ × base × perpendicular height

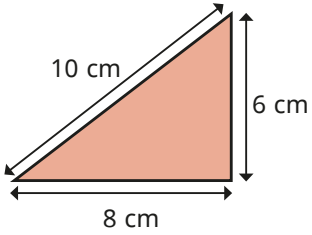
The area is $\frac{1}{2}$ × 4 × 3
I can ignore the 5 because it isn't the base or the perpendicular height.



Do you agree with Whitney? Talk about it with a partner.

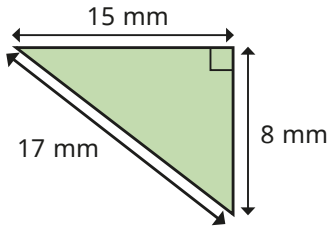
5 Insert the correct numbers into the formulae to calculate the area of each triangle.

a)



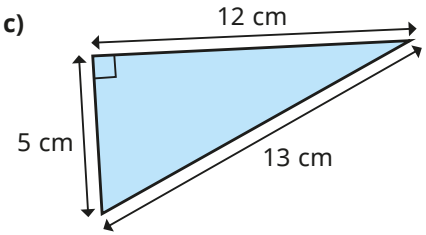
$\frac{1}{2}$ × ☐ × ☐ = ☐ cm²

b)



$\frac{1}{2}$ × ☐ × ☐ = ☐ mm²

c)



$\frac{1}{2}$ × ☐ × ☐ = ☐ cm²

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4 Whitney uses the formula to calculate the area of the triangle.

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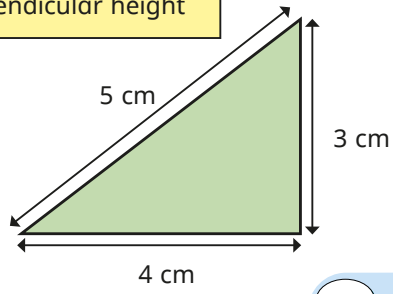
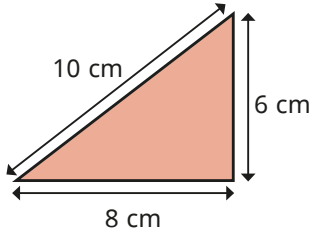
I can ignore the 5 because it isn't the base or the perpendicular height.



Do you agree with Whitney? Talk about it with a partner.

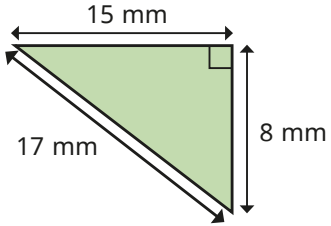
5 Insert the correct numbers into the formulae to calculate the area of each triangle.

a)



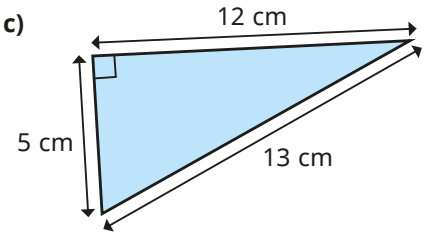
$\frac{1}{2} \times \square \times \square = \square$ cm²

b)



$\frac{1}{2} \times \square \times \square = \square$ mm²

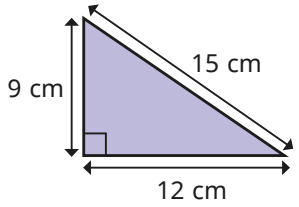
c)



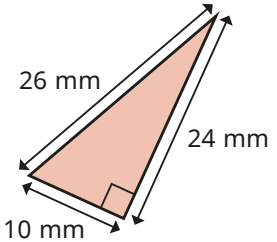
$\frac{1}{2} \times \square \times \square = \square$ cm²

6 Calculate the areas of the triangles.

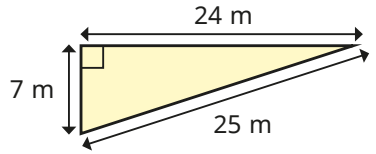
a)



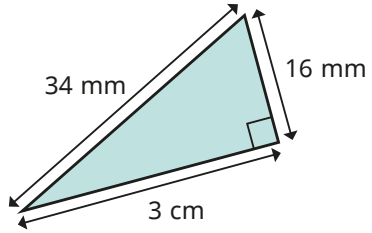
b)



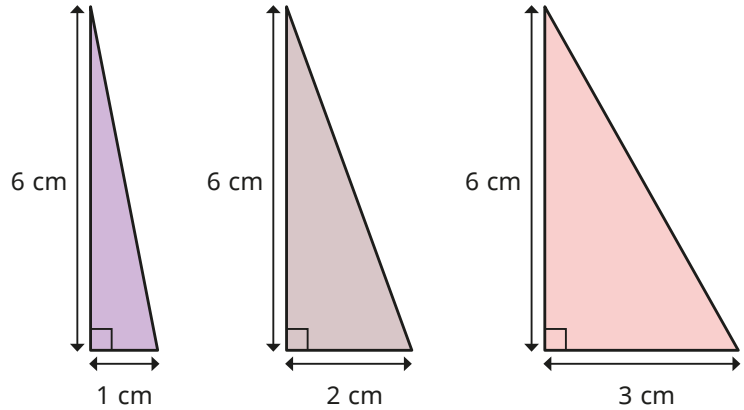
c)



d)



7 Here are three right-angled triangles.



a) Work out the area of each triangle.

b) The base of the triangle is increasing by 1 cm each time.

What do you notice about the areas?

What happens if the base and height increase?