LO: Derive and use the formula for the area of a triangle.

# Mental Math

Work out the missing numbers.

- $\frac{1}{2} \times 8 \times 7 = \square$
- $\frac{1}{2} \times 3 \times 6 = \square$
- $7 \times \square = 35$
- $\frac{1}{2}(5 + 3) \times 10 = \square$

What does perpendicular mean?

LO: Derive and use the formula for the area of a triangle.

# Mental Math (Answers)

Work out the missing numbers.

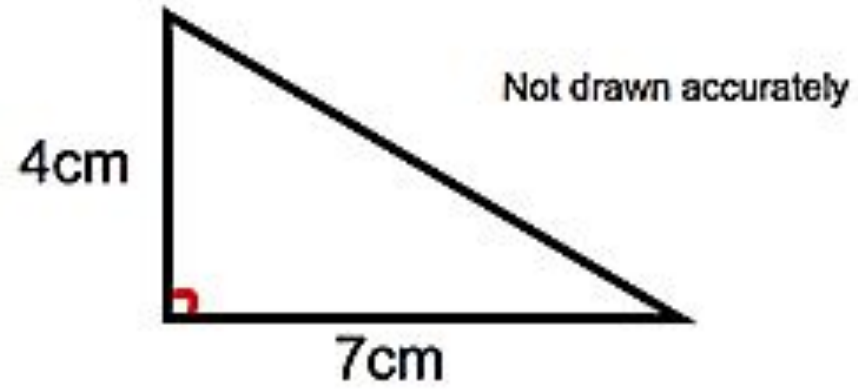
- $\frac{1}{2} \times 8 \times 7 = \boxed{28}$
- $\frac{1}{2} \times 3 \times 6 = \boxed{09}$
- $7 \times \boxed{05} = 35$
- $\frac{1}{2}(5 + 3) \times 10 = \boxed{40}$

What does perpendicular mean?

# Area of Triangle

**LO: Derive and use the formula for the area of a triangle.**

## Starter




Jayden is working out the area of this triangle.

He says the area is $28cm^2$ as $7 \times 4 = 28$

Explain why Jayden is incorrect. **Jayden did not divide by 2**

End

# GCSE/iGCSE Assessment Objective Specification – Foundation/Higher

**A** understand that symbols may be used to represent numbers in equations or variables in expressions and formulae

**D** use formulae from mathematics and other real-life contexts expressed initially in words or diagrammatic form and convert to letters and symbols

**C** find the area of simple shapes using the formulae for the areas of triangles and rectangles

# Area of Triangle

**LO: Derive and use the formula for the area of a triangle.**

## Why learn this?

Architects and engineers need to work out the areas of various shapes so that they can design and construct interesting buildings.

## Explore

What different shapes can you make from fitting two triangles together?

# Area of Triangle

**LO: Derive and use the formula for the area of a triangle.**

## Key Concept

What's the area of this rectangle?

10 cm

6 cm

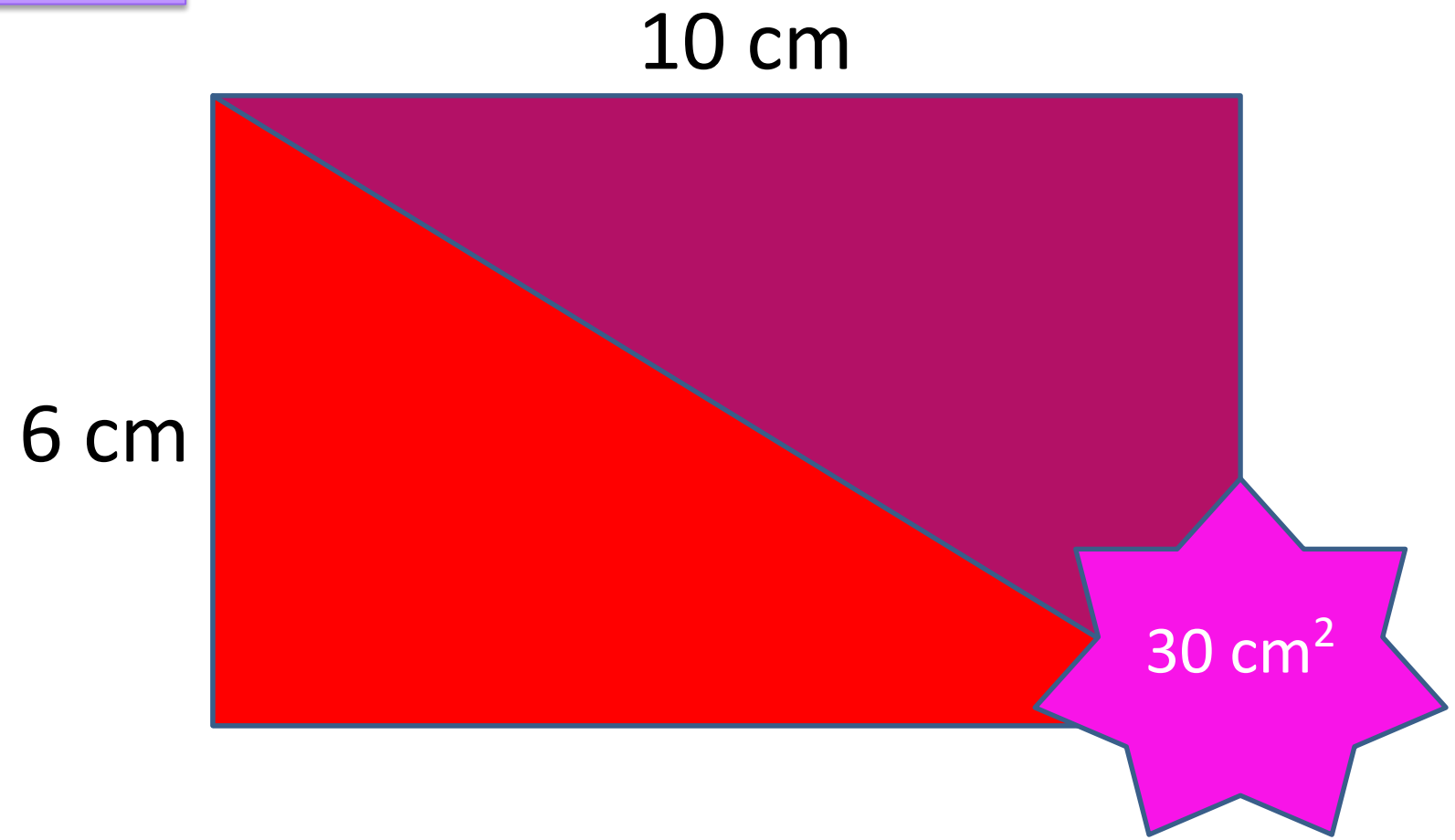
$60\ cm^2$

# Area of Triangle

**LO: Derive and use the formula for the area of a triangle.**

## Key Concept

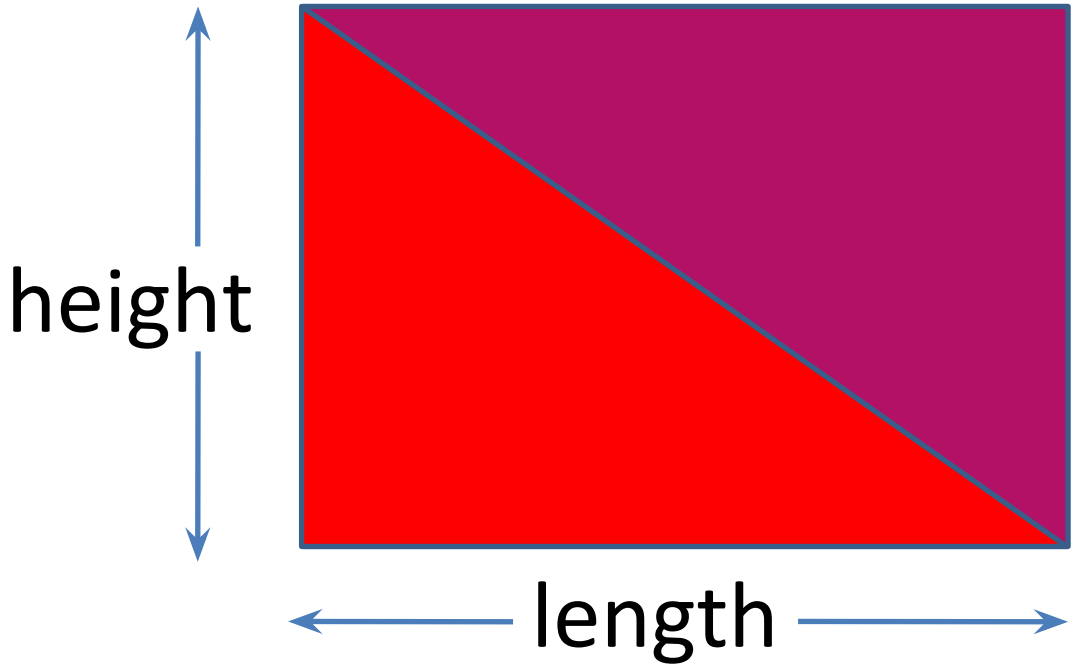
What's the area of the red triangle?



# Area of Triangle

LO: Derive and use the formula for the area of a triangle.

## Key Concept



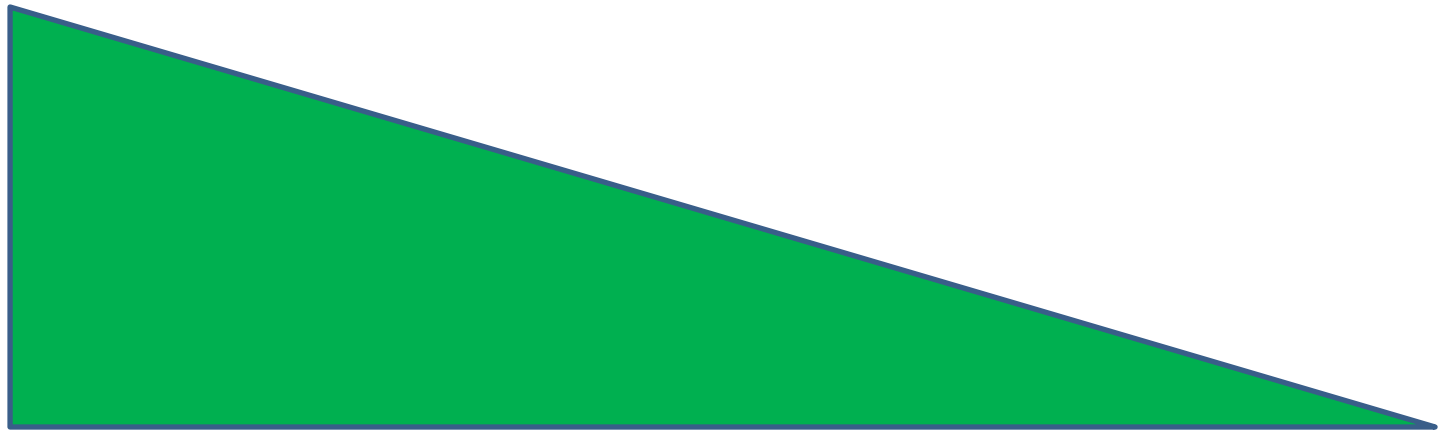

Area = ½ length x height

# Area of Triangle

LO: Derive and use the formula for the area of a triangle.

## My Turn

What's the height?



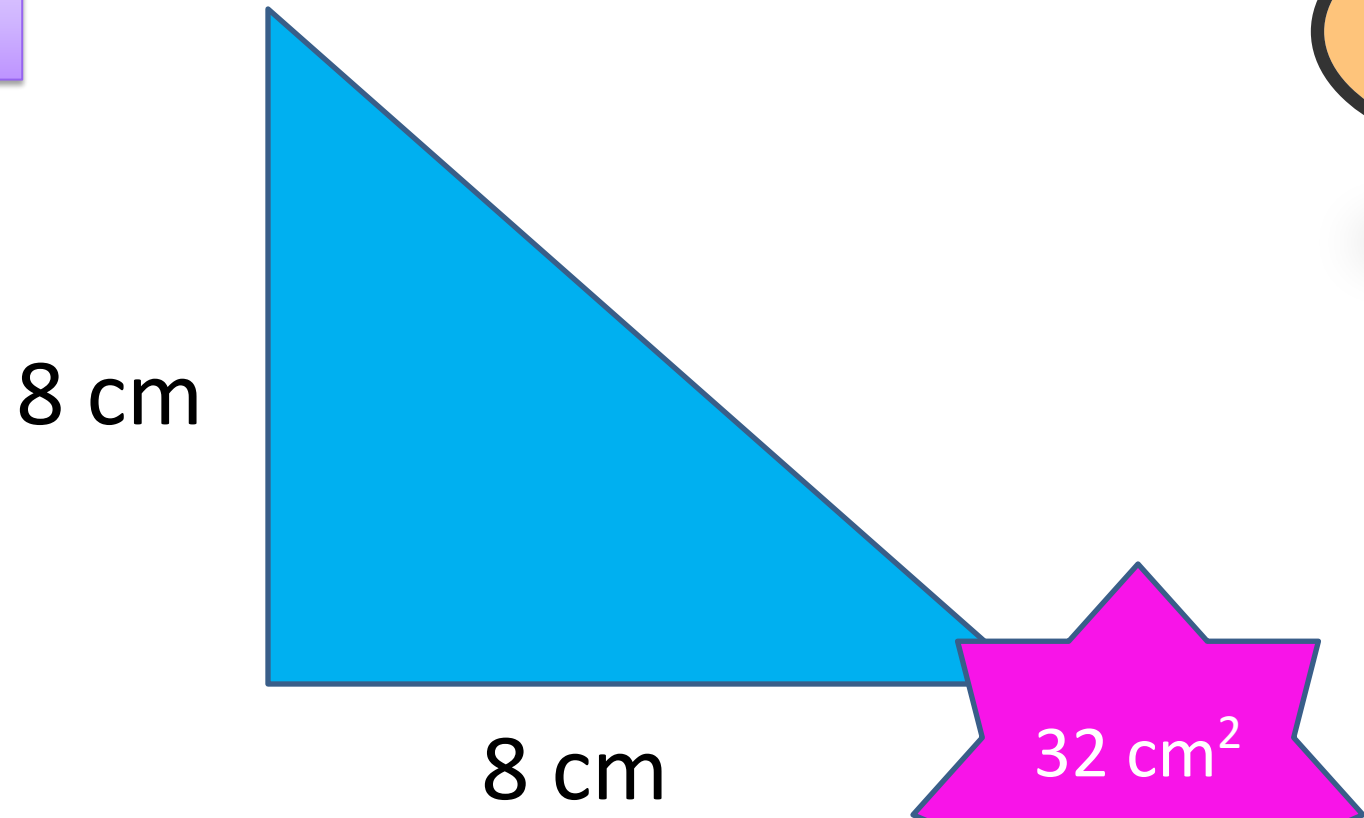

½ of 8 x ? = 16 $cm^2$

# Area of Triangle

LO: Derive and use the formula for the area of a triangle.

## Your Turn

What's the area?




01:00

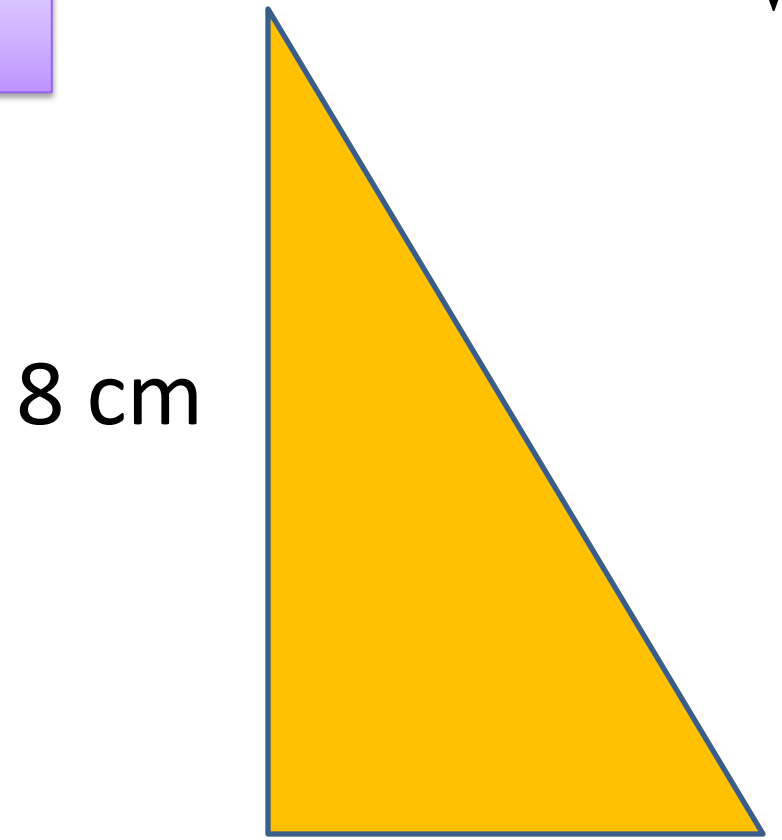
32 $cm^2$

# Area of Triangle

**LO: Derive and use the formula for the area of a triangle.**

## My Turn

What's the area?




$12\ cm^2$

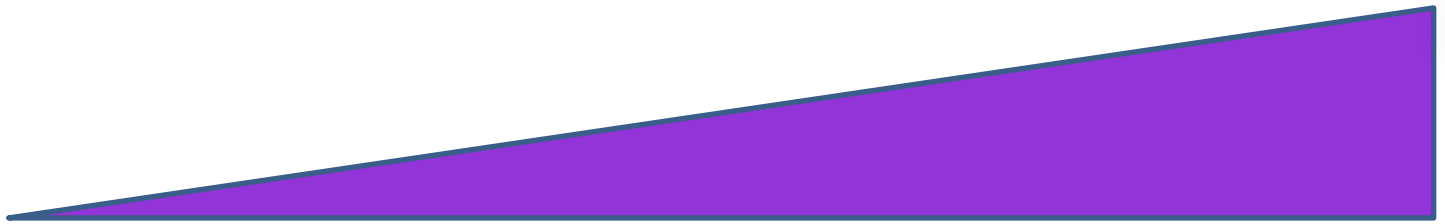
# Area of Triangle

**LO: Derive and use the formula for the area of a triangle.**

## Your Turn

What's the area?

01:00




$14\ cm^2$

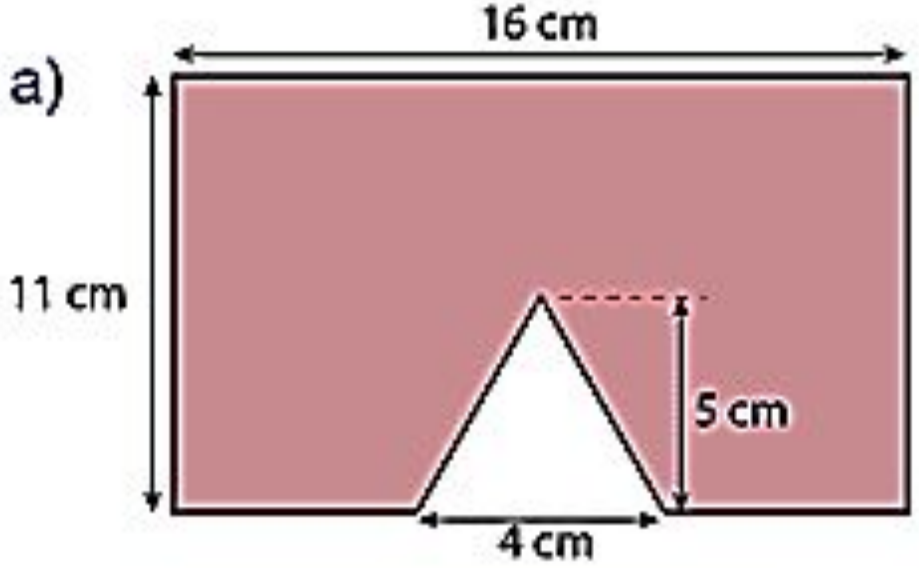
# Area of Triangle

**LO: Derive and use the formula for the area of a triangle.**

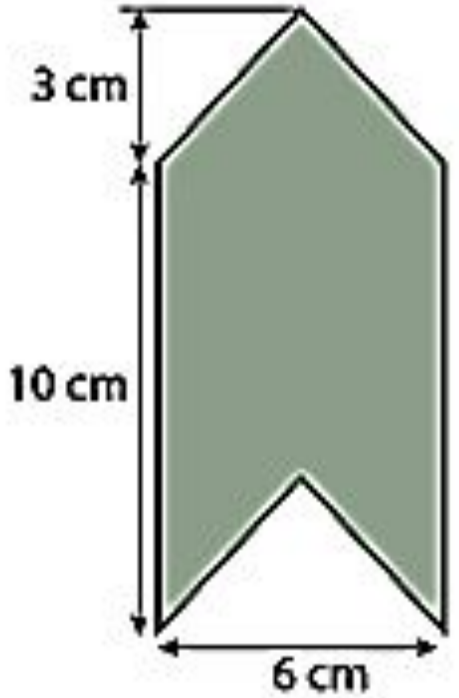
Calculate the area of the composite shapes.

05:00

a)




b)




**Pair Task**

# Core Task

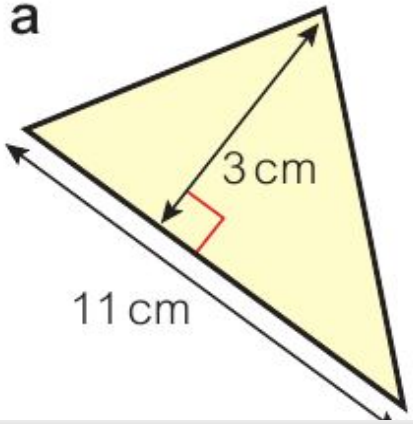
**LO: Derive and use the formula for the area of a triangle.**

**10:00**

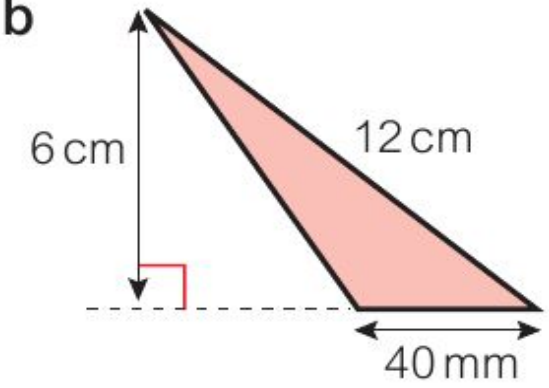
**TASK 1**

Work out the area of each triangle.

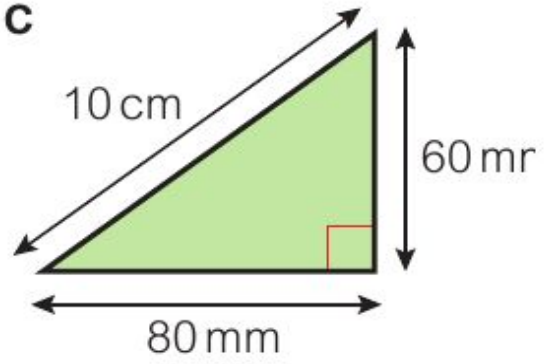
a




b



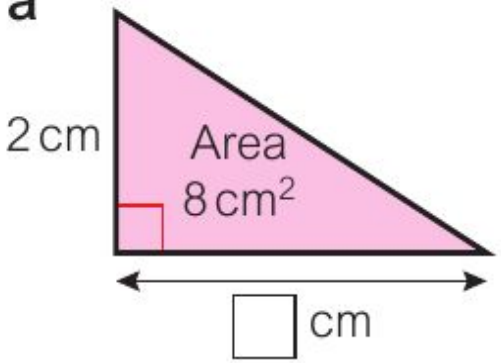

c



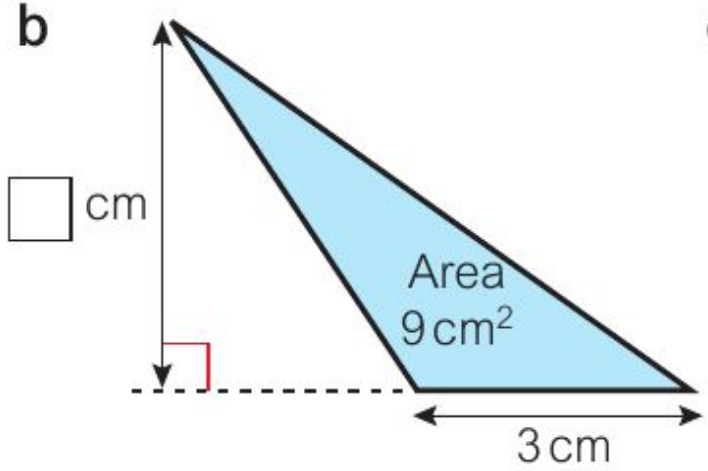

**TASK 2**

Work out the missing measurement for each triangle.

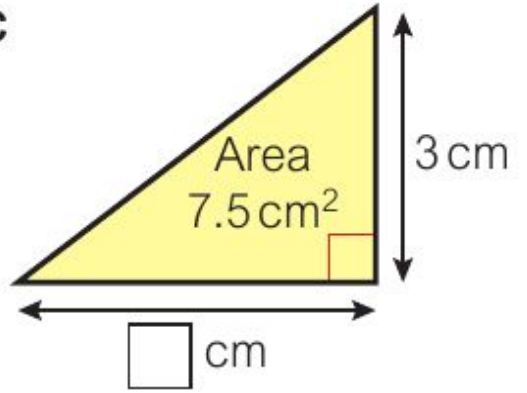
a




b




c



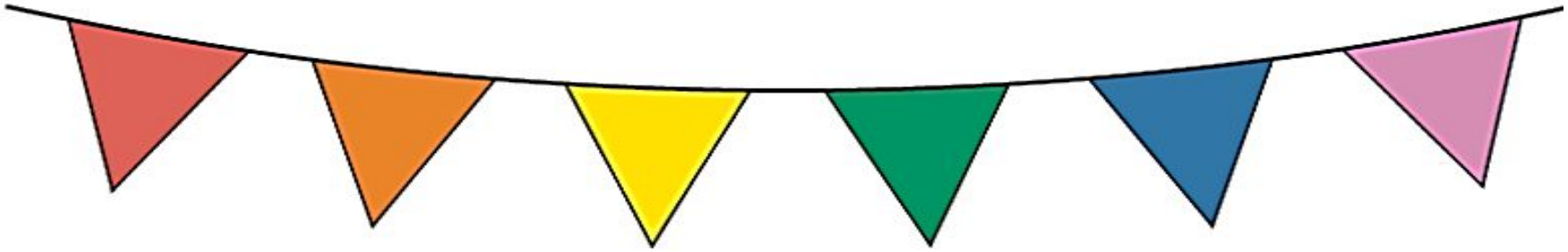
# Core Task

**LO: Derive and use the formula for the area of a triangle.**

10:00

**TASK 3**

**Real / Problem-solving** Meena is making some bunting.
Each flag is a triangle of height 40 cm and base 25 cm.
She wants to make 12 triangles.
Work out the total area of material that she needs.



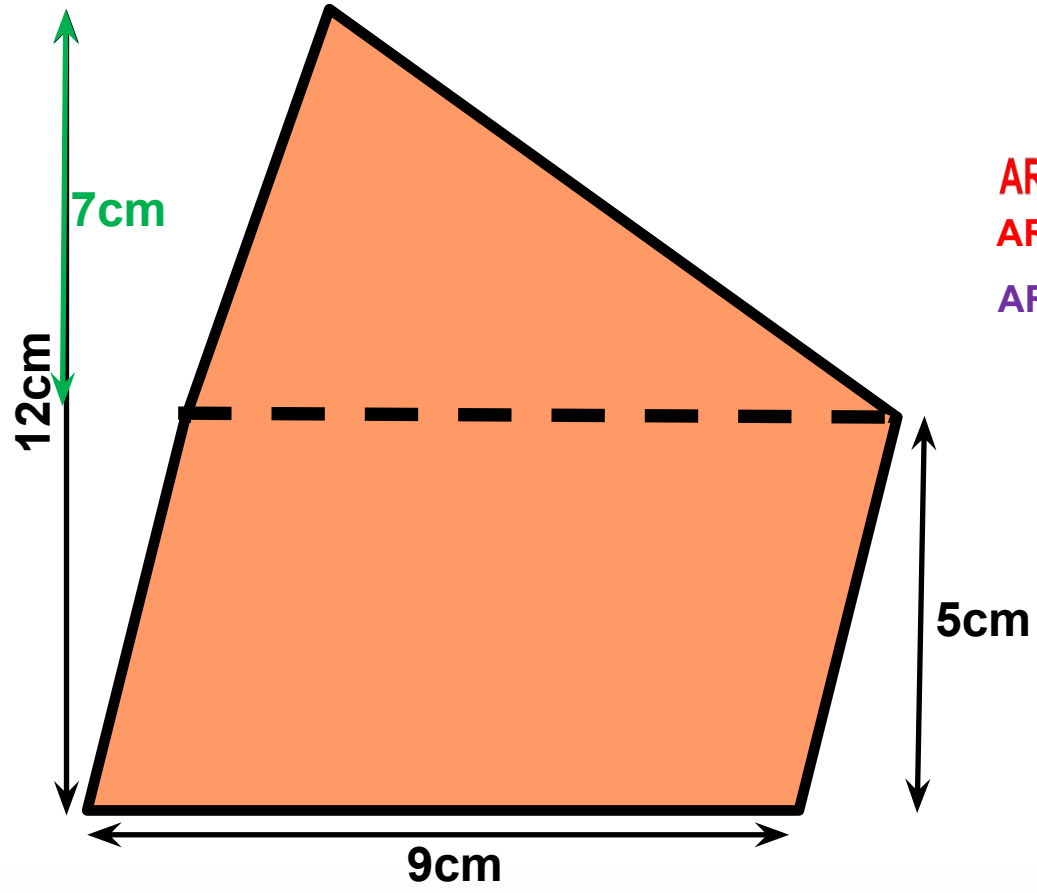
**CHALLENGE TASK**

**Problem-solving** Draw as many right-angled triangles as you can with an area of 12 $cm^2$.

# Plenary

**LO: Derive and use the formula for the area of a triangle.**

Find the area of the shape




**THE SHAPE SPLITS INTO A PARALLELOGRAM AND TRIANGLE**

AREA OF PARALLELOGRAM = BASE X VERTICAL HEIGHT

AREA OF PARALLELOGRAM = 9 x 5

AREA OF PARALLELOGRAM = $45cm^2$

AREA OF A TRIANGLE = $\frac{\text{BASE X VERTICAL HEIGHT}}{2}$

AREA OF A TRIANGLE = $\frac{9 \times 7}{2}$

AREA OF A TRIANGLE = $31.5cm^2$

AREA OF SHAPE = 45 + 31.5

**AREA OF SHAPE = $76.5cm^2$**