

Varied Fluency

Step 5: Area of a Triangle 3

National Curriculum Objectives:

Mathematics Year 6: (6M7b) [Calculate the area of parallelograms and triangles](#)

Mathematics Year 6: (6M7c) [Recognise when it is possible to use formulae for the area of shapes](#)

Differentiation:

Developing Questions to support calculating the area of a triangle using the formula: $\text{base} \times \text{height} \div 2$. Triangles are right-angled and isosceles and only the base and height are labelled. Only whole numbers are used. Some composite shapes made up of up to 2 triangles are included.

Expected Questions to support calculating the area of a variety of triangles, with different orientations, using the formula: $\text{base} \times \text{height} \div 2$. Children to select the base and height from given measurements. Calculations involve some conversion (mm to cm). Whole numbers only. Some composite shapes made up of up to 3 triangles are included.

Greater Depth Questions to support calculating the area of a variety of triangles, with different orientations, using the formula: $\text{base} \times \text{height} \div 2$. Children to work out the base and height from given measurements. Calculations involve some whole and half numbers and some conversion (mm to cm and cm to m). Some composite shapes made up of up to 3 triangles are included.

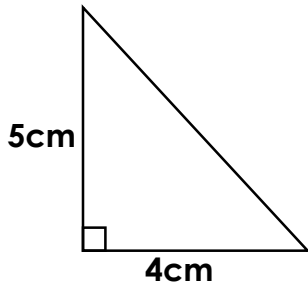
More [Year 6 Perimeter, Area and Volume](#) resources.

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Area of a Triangle 3

1a. Use the formula: $b \times h \div 2$ to calculate the area for the triangle below.

Circle the correct area.



A. 10cm^2

B. 9cm^2

C. 8cm^2



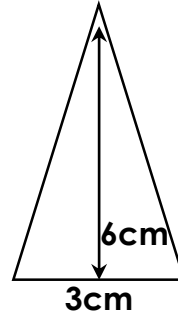
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Area of a Triangle 3

1b. Use the formula: $b \times h \div 2$ to calculate the area for the triangle below.

Circle the correct area.



A. 10cm^2

B. 9cm^2

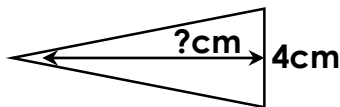
C. 8cm^2



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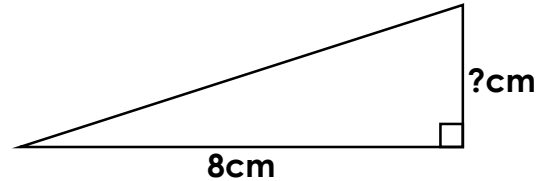
2a. The area of the triangle below is 20cm^2 . What is the missing height?



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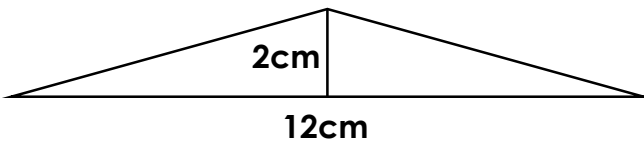
2b. The area of the triangle below is 12cm^2 . What is the missing height?



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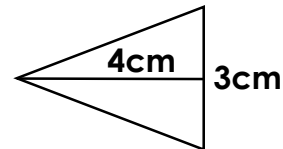
3a. Calculate the area of the shape. The triangles are identical.



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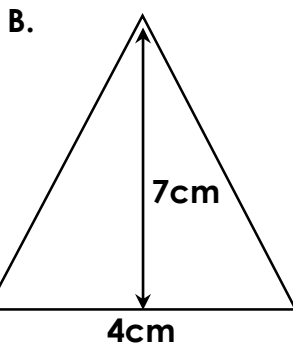
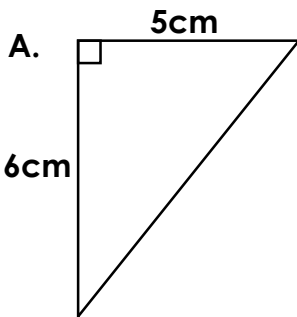
3b. Calculate the area of the shape. The triangles are identical.



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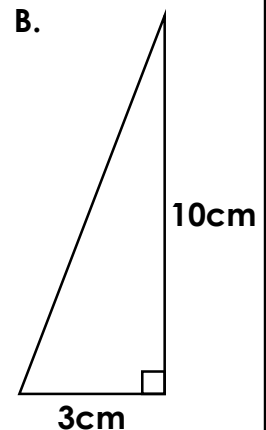
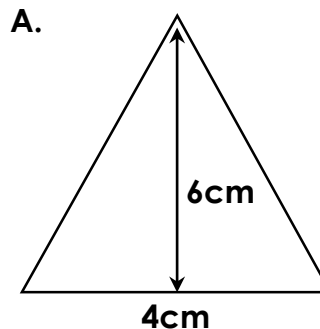
4a. Which triangle has the largest area?



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4b. Which triangle has the largest area?



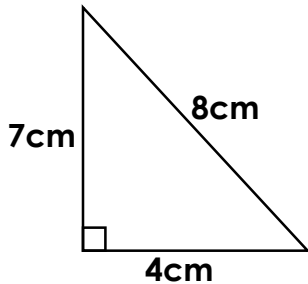
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Area of a Triangle 3

5a. Use the formula: $b \times h \div 2$ to calculate the area for the triangle below.

Circle the correct area.



A. 13cm^2

B. 14cm^2

C. 15cm^2



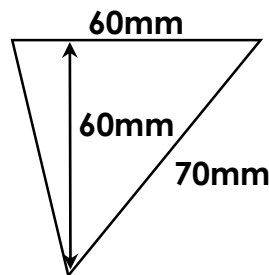
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Area of a Triangle 3

5b. Use the formula: $b \times h \div 2$ to calculate the area for the triangle below.

Circle the correct area.



A. $1,600\text{mm}^2$

B. $1,700\text{mm}^2$

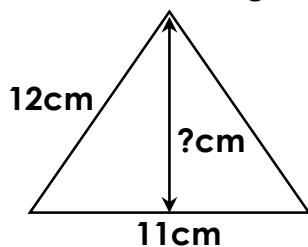
C. $1,800\text{mm}^2$



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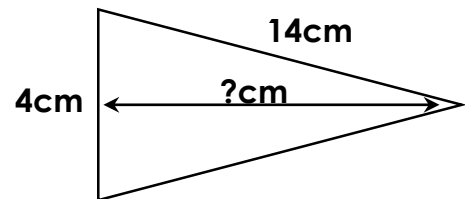
6a. The area of the triangle below is 55cm^2 . What is the missing height?



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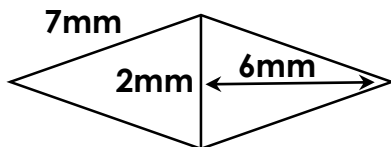
6b. The area of the triangle below is 24cm^2 . What is the missing height?



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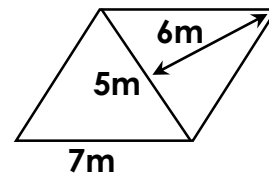
7a. Calculate the area of the shape. The triangles are identical.



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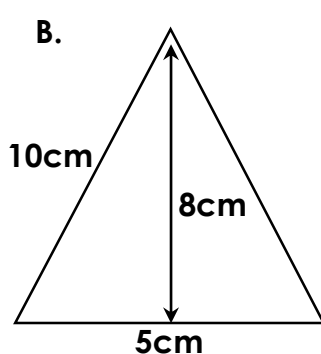
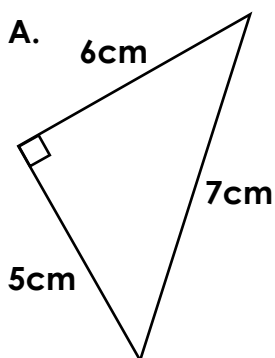
7b. Calculate the area of the shape. The triangles are identical.



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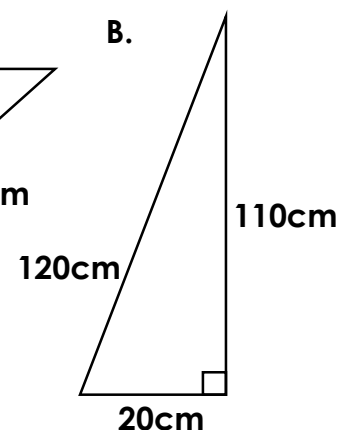
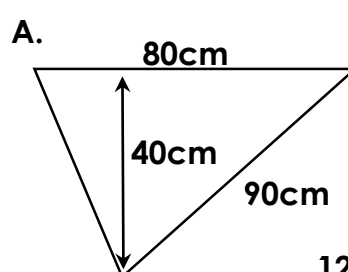
8a. Which triangle has the largest area?



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8b. Which triangle has the largest area?



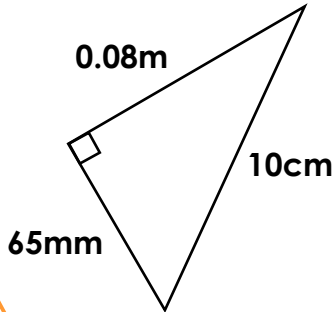
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Area of a Triangle 3

9a. Use the formula: $b \times h \div 2$ to calculate the area for the triangle below.

Circle the correct area.



A. 24.5cm^2

B. 22cm^2

C. 26cm^2



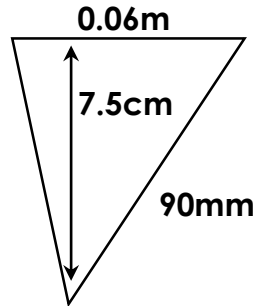
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Area of a Triangle 3

9b. Use the formula: $b \times h \div 2$ to calculate the area for the triangle below.

Circle the correct area.



A. 24.5cm^2

B. 22.5cm^2

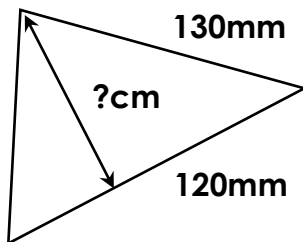
C. 25cm^2



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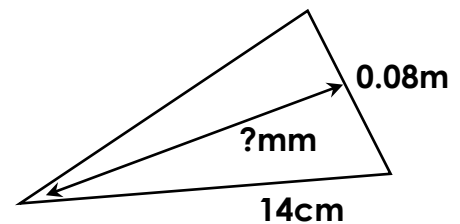
10a. The area of the triangle below is 45cm^2 . What is the missing height?



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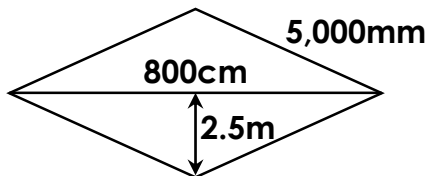
10b. The area of the triangle below is 46cm^2 . What is the missing height?



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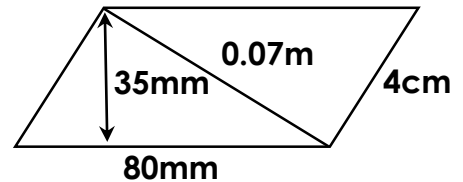
11a. Calculate the area of the shape in metres. The triangles are identical.



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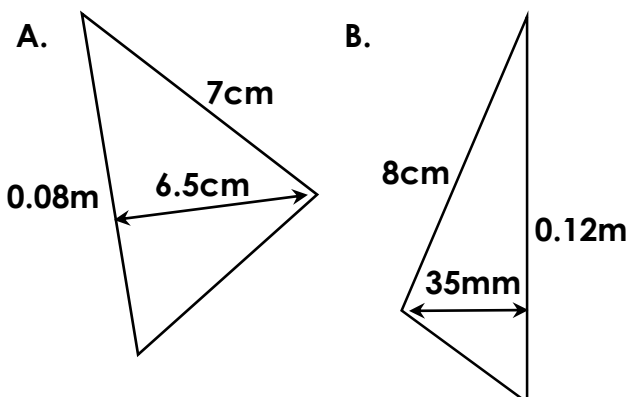
11b. Calculate the area of the shape in cm. The triangles are identical.



Not to scale

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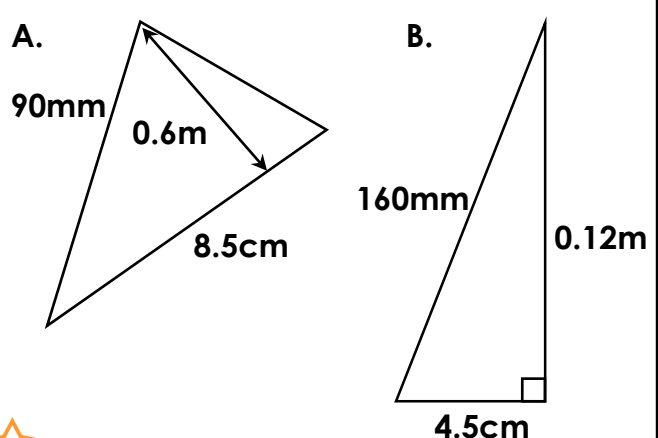
12a. Which triangle has the largest area?



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12b. Which triangle has the largest area?



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Varied Fluency
Area of a Triangle 3

Developing

- 1a. **A. 10cm^2**
2a. **10cm**
3a. **12cm^2**
4a. **A has the largest area; $A = 15\text{cm}^2$,
 $B = 14\text{cm}^2$**

Expected

- 5a. **B. 14cm^2**
6a. **10cm**
7a. **12mm^2**
8a. **B has the largest area; $A = 15\text{cm}^2$,
 $B = 20\text{cm}^2$**

Greater Depth

- 9a. **C. 26cm^2**
10a. **7.5cm**
11a. **20m^2**
12a. **A has the largest area; $A = 26\text{cm}^2$,
 $B = 21\text{cm}^2$**

Varied Fluency
Area of a Triangle 3

Developing

- 1b. **B. 9cm^2**
2b. **3cm**
3b. **6cm^2**
4b. **B has the largest area; $A = 12\text{cm}^2$,
 $B = 15\text{cm}^2$**

Expected

- 5b. **C. $1,800\text{mm}^2$**
6b. **12cm**
7b. **30m^2**
8b. **A has the largest area; $A = 1,600\text{cm}^2$,
 $B = 1,100\text{cm}^2$**

Greater Depth

- 9b. **B. 22.5cm^2**
10b. **115mm**
11b. **28cm^2**
12b. **B has the largest area; $A = 25.5\text{cm}^2$,
 $B = 27\text{cm}^2$**