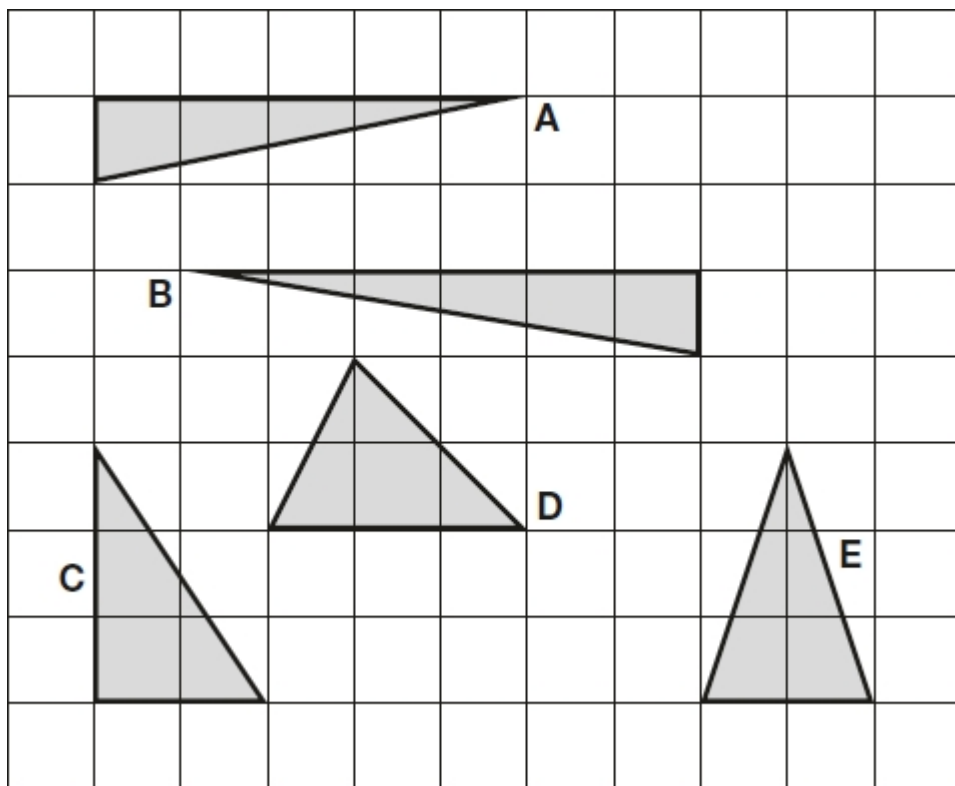**1.** Here are five triangles on a square grid.

Four of the triangles have the same area.
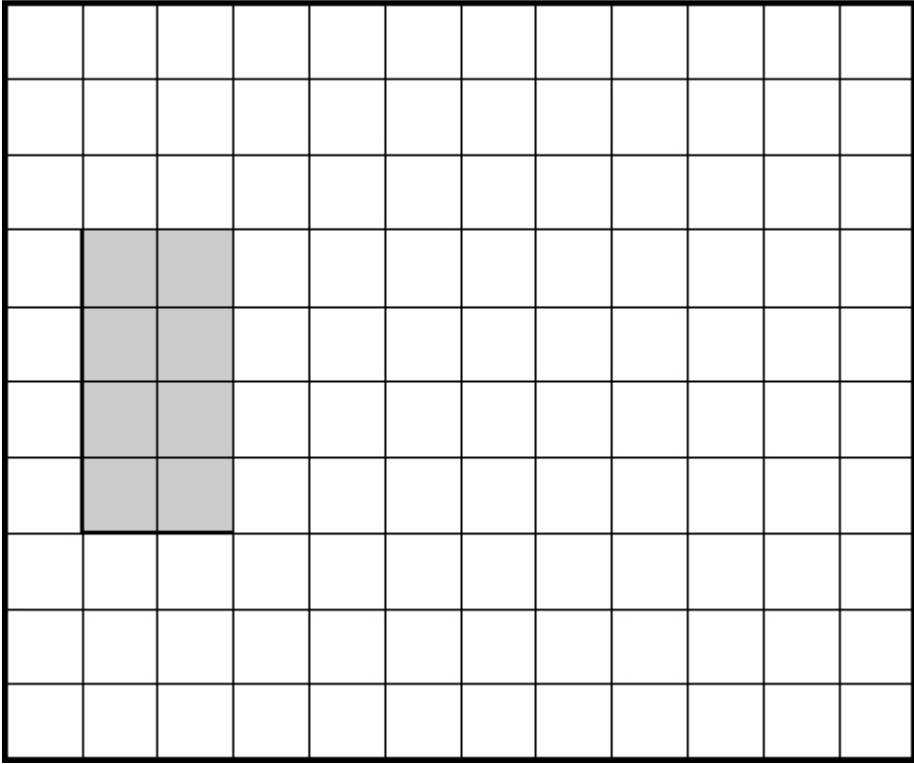
Which triangle has a **different** area?

_____

1 mark

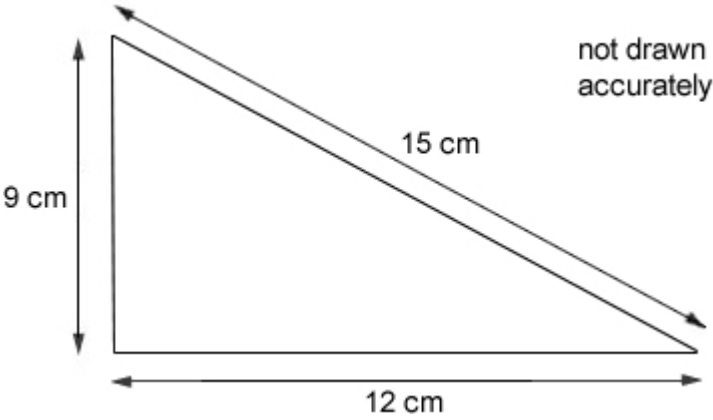**2.** On the grid draw a **triangle** with the **same area** as the shaded rectangle.

Use a ruler.
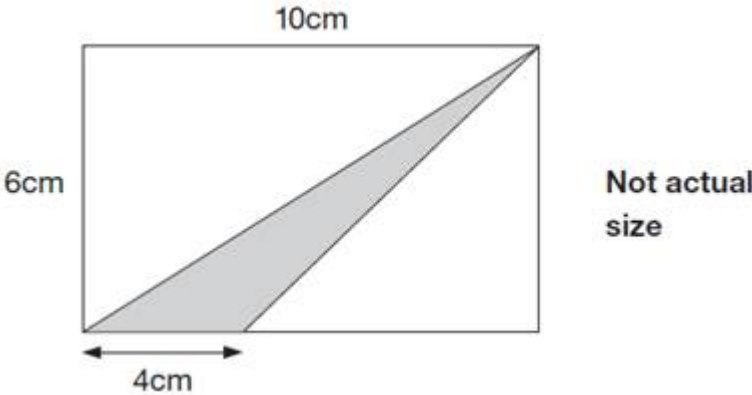

1 mark

3. Calculate the area of this triangle.

not drawn accurately

15 cm

9 cm

12 cm

cm²

1 mark

4. The diagram shows a shaded triangle inside a rectangle.

10cm

6cm

Not actual size

4cm

What is the area of the shaded triangle?

Show your method

cm^2

2 marks

5.

The diagram shows **4 identical shaded triangles** in a rectangle.

Not actual size
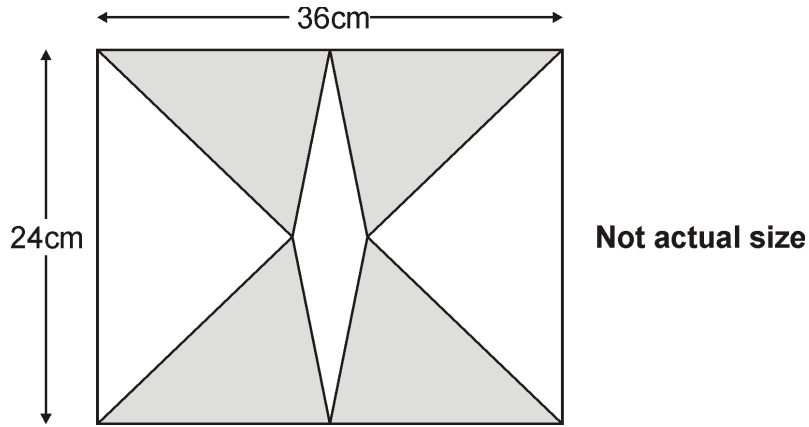
The rectangle measures **36 centimetres** by **24 centimetres**.

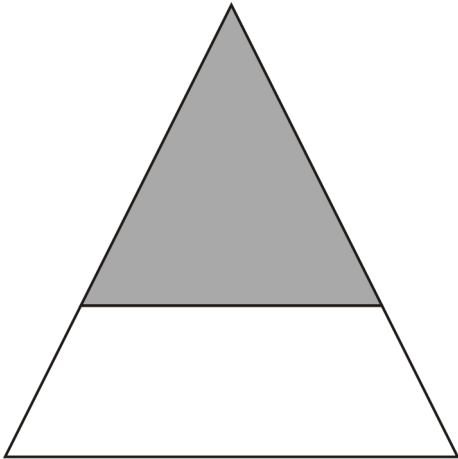Calculate the **area** of **one shaded triangle**.

Show your method

cm²

2 mark

6. The diagram shows a shaded triangle inside a larger triangle.

The area of the **shaded** triangle is 52 cm^2.

The area of the shaded triangle is $\dfrac{4}{9}$ of the area of the larger triangle.

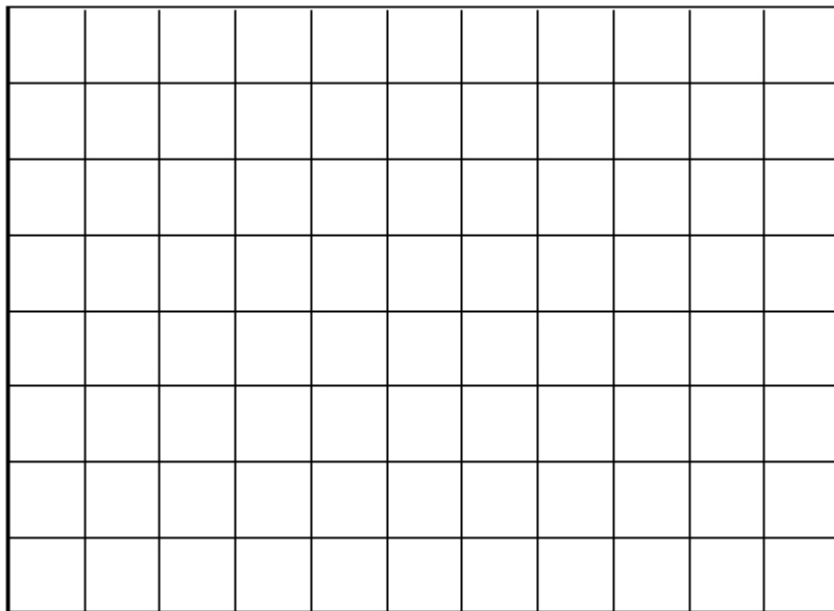Calculate the **area** of the **larger triangle**.

Show your method

cm

2 mark

7.

This is a centimetre grid.

On the grid draw a **triangle** which has an **area of 7.5 cm²** and which has **an obtuse angle**.
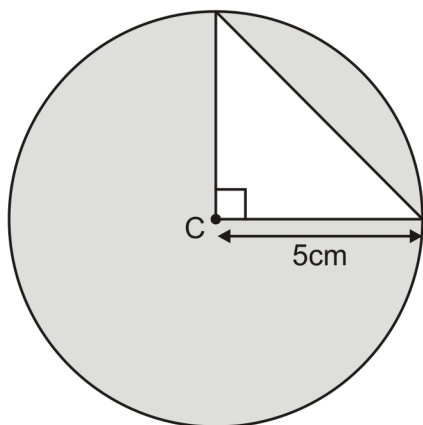
Use a ruler.

2 mark

8.

The diagram shows a **right-angled triangle** inside a **circle**.

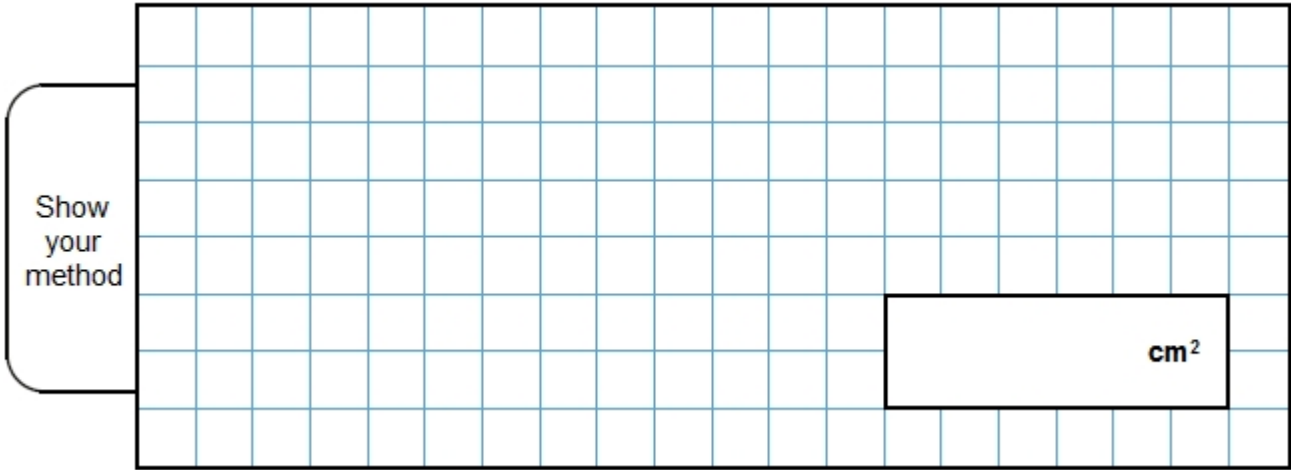The circle has a radius of **5 centimetres**.

Calculate the **area** of the **triangle**.

cm²

1 mark

Calculate the area of the **shaded part** of the diagram.

Show your method

cm^2

2 mark

Mark schemes

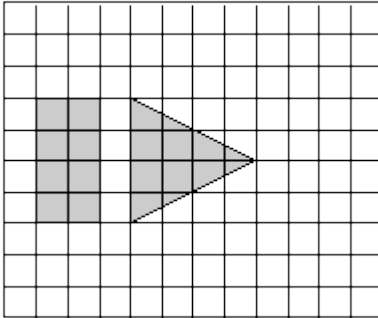**1.**   A

            Accept alternative unambiguous positive indications of the correct triangle, e.g. $2\frac{1}{2}$ or 2.5.

            [1]

2.   Any triangle with an area of 8 cm^2, eg
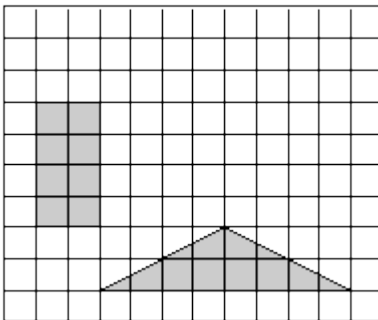

            Drawings must be accurate to within 2 mm of appropriate grid intersections.
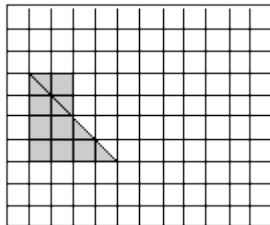
            The triangle need not be shaded and need not have vertices at grid junctions.

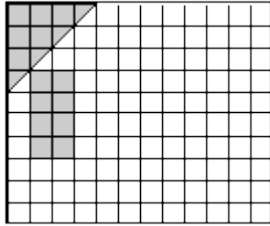   *Do not penalise drawings done without a ruler, provided the intention is clear.*

OR

            Accept drawings that overlap the given rectangle or use the edge of the grid, eg

OR

[1]

3. 54 cm^2

[1]

4. 12

2

or

Shows or implies a complete correct method, eg:

- 4 × 6 ÷ 2 = 13 *(error)*

- 60 − (10 × 6 ÷ 2) − (6 × 6 ÷ 2)

- 60 − 48

1

[2]

5. Award **TWO** marks for the correct answer of 108 cm^2

If the answer is incorrect award **ONE** mark for evidence of an appropriate method, eg

36 ÷ 2 = 18

24 ÷ 2 = 12

area = ½ × 12 × 18

Calculation need not be completed for the award of the mark.
No mark *is awarded for the result of calculating 12 × 18 only.*

Up to 2

[2]

6. Award **TWO** marks for the correct answer of 117.

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg

52 ÷ 4 = 13 **AND** 9 × 13
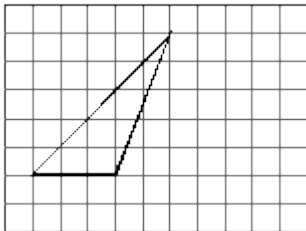
OR $\frac{4}{9}$ = 0.444 **AND** 52 ÷ 0.444

Calculation need not be completed for the award of the mark.

Up to 2

[2]

7. Award **TWO** marks for any obtuse-angled triangle with an area of 7.5 cm^2, eg

If the answer is incorrect, award **ONE** mark for any triangle with an area of 7.5 cm^2 (irrespective of angles)

Accept any obtuse-angled triangle with appropriate base and height each correct to within 2 mm

The triangle need not have vertices on the grid intersections.

Accept a triangle not drawn with a ruler, provided the vertices are correctly placed.

Up to 2

[2]

8. (a) 12.5 **OR** 12½

1

(b) Award **TWO** marks for the correct answer in the range of 66 to 66.1 inclusive **OR** an answer based upon values obtained in **13a**.

If the answer is incorrect award **ONE** mark for evidence of an appropriate method, eg

- (3.14 × 5 × 5) −12.5

The calculation need not be completed for the award of the mark.

Up to 2

[3]