Trigonometry Exam Practice

1. Find the size of angle ACB to 1 d.p.
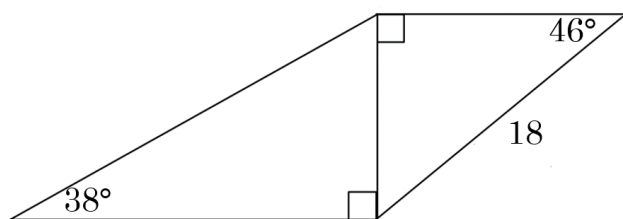
A

15 cm

B

13 cm

C
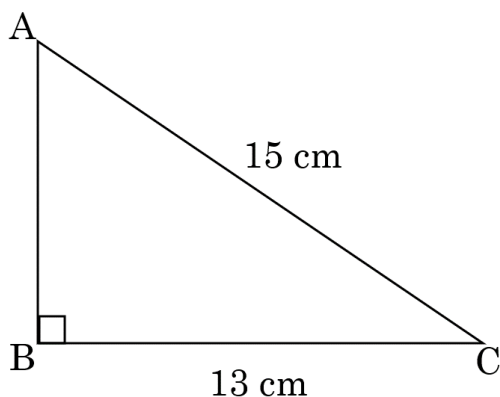
(3 marks)

2. Find the length of side XY to 1 d.p.

Y

40°

X   35 cm   Z
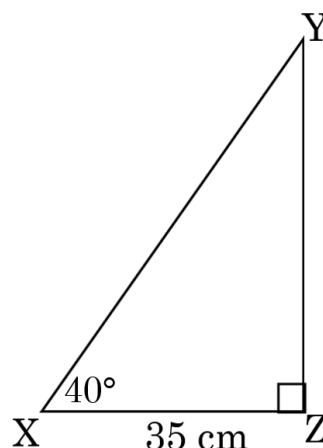
(3 marks)

3. Find the perimeter of the shape correct to 2 d.p.
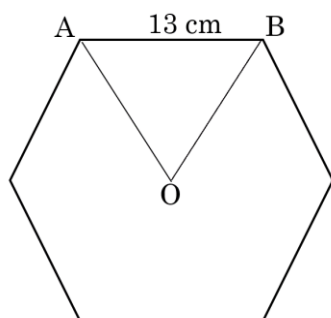
46°

18

38°

(4 marks)

4. Find the area of the shape below:

12 cm

10 cm

79°
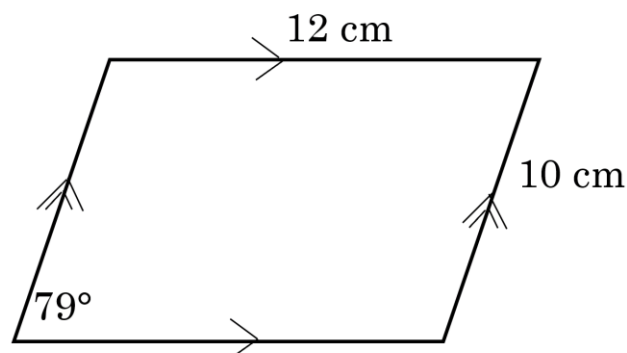
(4 marks)

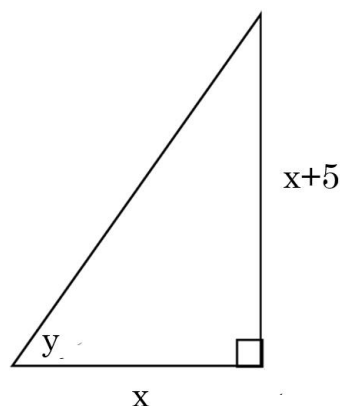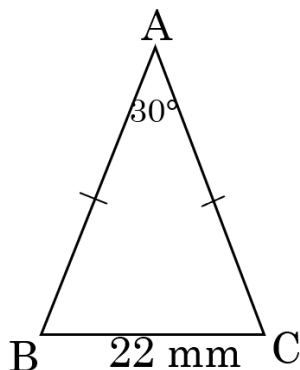### 5. Below, O is the centre of the regular hexagon. Find the area of the hexagon to the nearest cm².

A   13 cm   B

O

(4 marks)

6. The area of the triangle is 18 cm². Find angle y.

x+5

y

x

(5 marks)

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7. A design for the face of a watch consists of a number of metal strips bent into the shape of triangles as shown below:
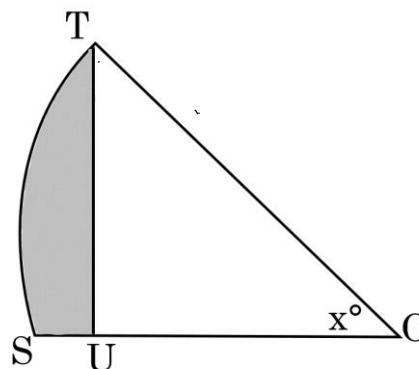

The triangles are arranged in a circular pattern so that each vertex A meets at a point. Sufficient triangles are used so there is no gap left. Work out the total length of the metal used to 1 d.p.
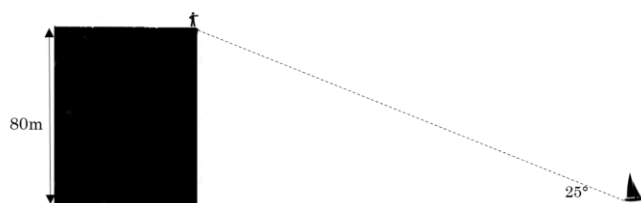Why is the model unrealistic?

(5 marks)

8. Below, OST is a sector of a circle, and OU = $2x + 2$, UT = $2x - 1$ and OT = $3x$.
Find the area of the shaded area correct to 1 decimal place.

(6 marks)

9. A boat is heading directly for the foot of a vertical cliff at 2.2 m/s. At 11.59am, the position of the boat from the cliff is shown below:

Rob is on the cliff, and he will be seen by Tom who is in the boat, once the angle of depression from Rob to Tom is 75°. Estimate what time, to the nearest second, Rob will be seen.

(4 marks)

Give two reasons why your answer is only an estimate. (2 marks)

10. A man walks due north along a straight road. When he reaches a point P on this road, he can see a tower T on a bearing of 30°. He continues a further 225 m from point P to the point Q, at which point the tower now lies on a bearing of 60° from his position.

(i) Find the shortest distance of T from the road to 1 d.p.

(3 marks)

(ii) The man walks further north to point R, so that the distance RT is 210 m. Find the two possible values for the distance PR, correct to the nearest metre.

(3 marks)