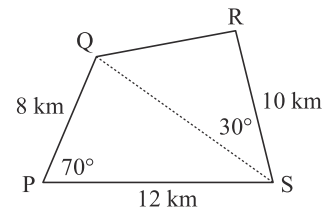


Find the measure of angle PQR in the rectangular box shown.

- 9 Two observation posts are 12 km apart at A and B. From A, a third observation post C is located such that angle CAB is 42° while angle CBA is 67° . Find the distance of C from both A and B.

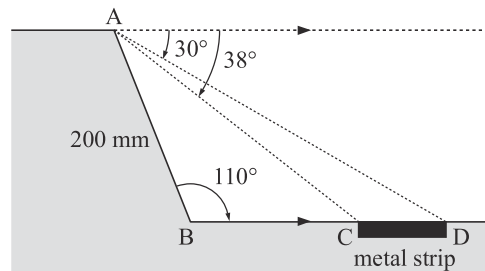
- 10 Stan and Olga are considering buying a sheep farm and the land agent supplies them with the given accurate sketch. Find the area of the property giving your answer in:

a km^2 b hectares.



- 11 Thabo and Palesa start at point A. They each walk in a straight line at an angle of 120° to each other. Thabo walks at 6 kmph and Palesa walks at 8 kmph. How far apart are they after 45 minutes?

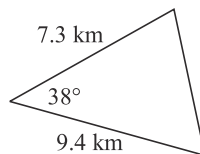
- 12 The design of the kerbing cross-section for a driverless-bus roadway is given. The metal strip is inlaid into the concrete and is used to control the direction of travel and speed of the bus. Find the width of the metal strip.



- 13 An orienteer runs for $4\frac{1}{2}$ km and then turns through an angle of 32° and runs another 6 km. How far is she from her starting point?
- 14 Sam and Markus are standing on level ground 100 metres apart. A large tree is due North of Markus and on a bearing of 065° from Sam. The top of the tree appears at an angle of elevation of 25° to Sam and 15° to Markus. Find the height of the tree.

REVIEW SET 12A

- 1 Determine the area of:

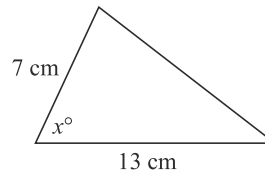


- 2 Determine the area of:

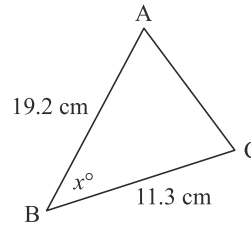
- a a sector of angle 80° and radius 13 cm
 b a triangle with sides 11 cm, 9 cm and included angle 65° .

- 3 Determine the perimeter and area of a sector of radius 11 cm and angle 63° .

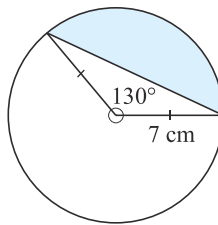
- 4 Determine the radius and hence the area of a sector of perimeter 36 cm if the angle is 120° .
- 5 Find the value of x if the area is 42 cm^2 :



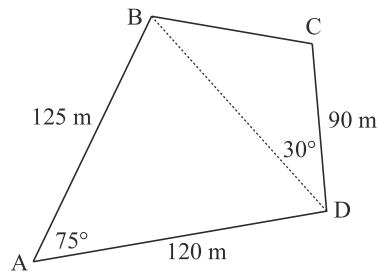
- 6 Find the value of x if the area is 80 cm^2 .
Hence, find the length of AC.



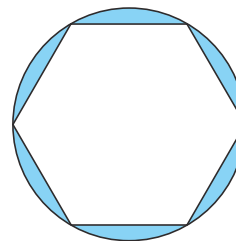
- 7 Determine the shaded area:



- 8 Anke and Lukas are considering buying a block of land and the land agent supplies them with the given accurate sketch. Find the area of the property giving your answer in:
- a m^2
 - b hectares.



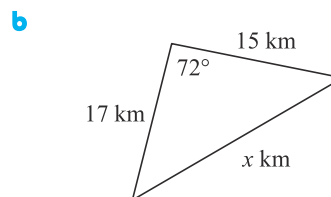
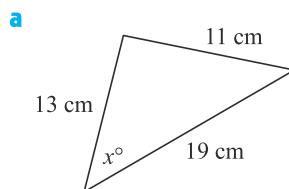
- 9 The diagram alongside shows a circular entertainment area. It has a paved hexagonal area with plants growing in the garden (shown as the shaded sectors).



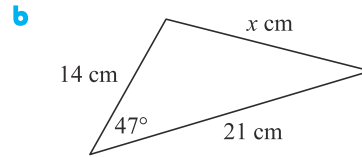
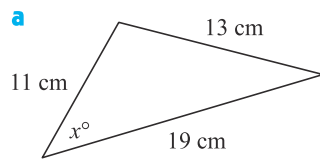
If the radius of the circle is 7 metres, find the area of the garden.

REVIEW SET 12B

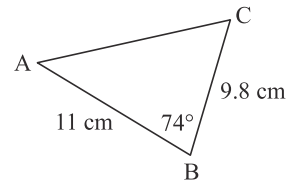
- 1 Determine the value of x :



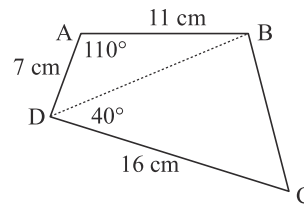
- 2 Find the value of x :



- 3 Find the unknown sides and angles:



- 4 Find the area of quadrilateral ABCD:



- 5 A vertical tree is growing on the side of a hill with slope of 10° to the horizontal. From a point 50 m downhill from the tree, the angle of elevation to the top of the tree is 18° . Find the height of the tree.
- 6 From point A, the angle of elevation to the top of a tall building is 20° . On walking 80 m towards the building the angle of elevation is now 23° . How tall is the building?
- 7 Peter, Sue and Alix are sea-kayaking. Peter is 430 m from Sue on a bearing of 113° while Alix is on a bearing of 203° and a distance 310 m from Sue. Find the distance and bearing of Peter from Alix.
- 8 A rally car drives at 140 kmph for 45 minutes on a bearing of 032° and then 180 kmph for 40 minutes on a bearing of 317° . Find the distance and bearing of the car from its starting point.
- 9 Three equal circles with radius r are drawn as shown, each with its centre on the circumference of the other two circles. A, B and C are the centres of the three circles. Prove that an expression for the area of the shaded region is:

$$A = \frac{r^2}{2}(\pi - \sqrt{3})$$

