

trig revision 2 [20 marks]

1. [Maximum mark: 7]

19N.2.SL.TZ0.S_4

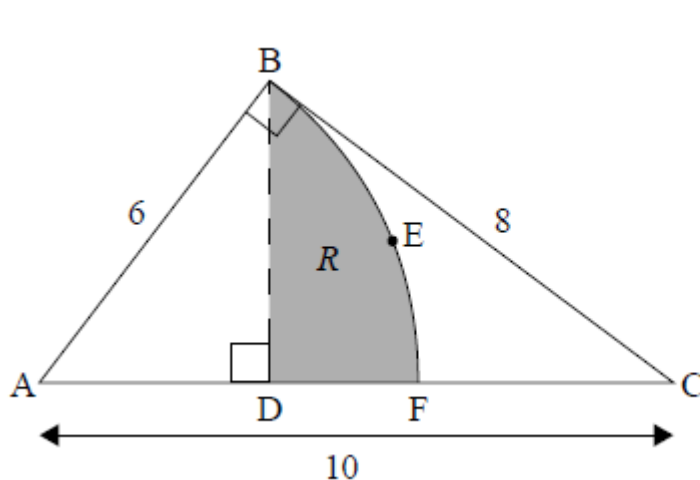
The following diagram shows a right-angled triangle, ABC , with $AC = 10$ cm, $AB = 6$ cm and $BC = 8$ cm.

The points D and F lie on $[AC]$.

$[BD]$ is perpendicular to $[AC]$.

BEF is the arc of a circle, centred at A .

The region R is bounded by $[BD]$, $[DF]$ and arc BEF .



(a) Find \widehat{BAC} . [2]

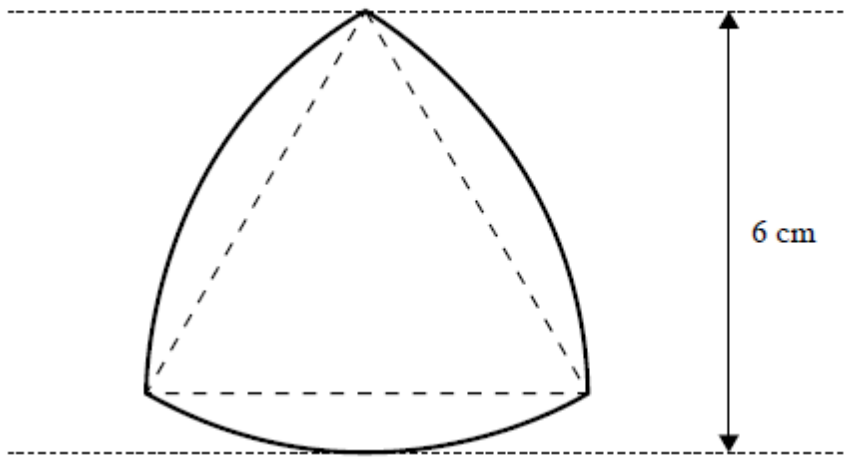
(b) Find the area of R . [5]

2. [Maximum mark: 7]

19N.2.AHL.TZ0.H_4

The following shape consists of three arcs of a circle, each with centre at the opposite vertex of an equilateral triangle as shown in the diagram.

diagram not to scale



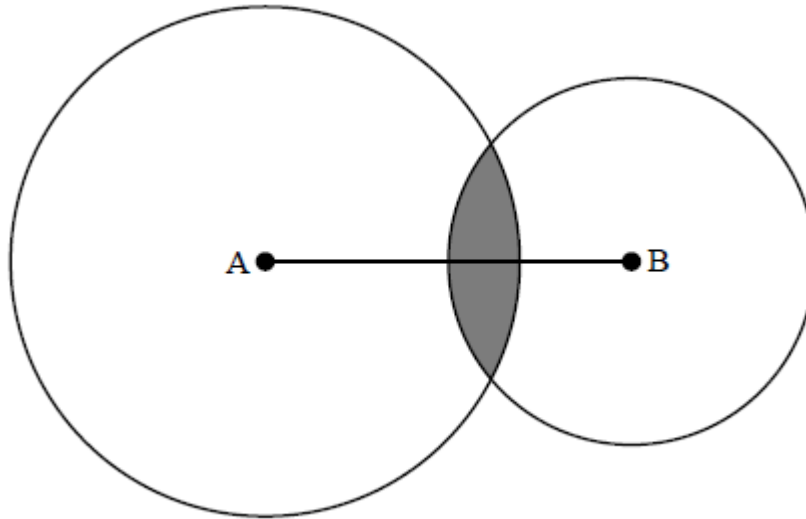
For this shape, calculate

- (a) the perimeter. [2]
- (b) the area. [5]

3. [Maximum mark: 6]

18N.2.AHL.TZ0.H_7

Boat A is situated 10km away from boat B, and each boat has a marine radio transmitter on board. The range of the transmitter on boat A is 7km, and the range of the transmitter on boat B is 5km. The region in which both transmitters can be detected is represented by the shaded region in the following diagram. Find the area of this region.



[6]