

AQA – Trigonometry – A2 Mathematics P3

1. June/2020/Paper_3/No.2

Given that

$$6 \cos \theta + 8 \sin \theta \equiv R \cos(\theta + \alpha)$$

find the value of R .

Circle your answer.

[1 mark]

6

8

10

14

2. June/2020/Paper_3/No.9

(a) For $\cos \theta \neq 0$, prove that

$$\operatorname{cosec} 2\theta + \cot 2\theta = \cot \theta$$

[4 marks]

(b) Explain why

$$\cot \theta \neq \operatorname{cosec} 2\theta + \cot 2\theta$$

when $\cos \theta = 0$

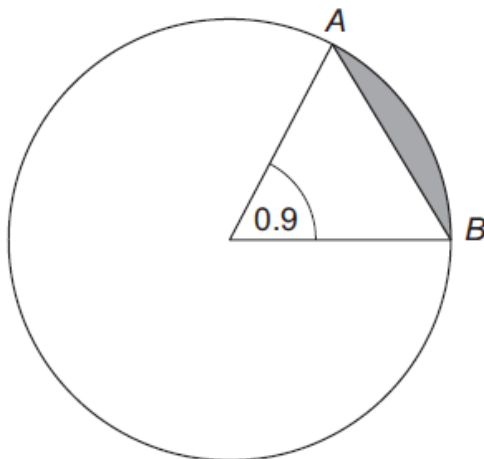
[1 mark]

3. June/2019/Paper_3/No.5

A circle has equation $x^2 + y^2 - 6x - 8y = 264$

AB is a chord of the circle.

The angle at the centre of the circle, subtended by AB , is 0.9 radians, as shown in the diagram below.



Find the area of the minor segment shaded on the diagram.

Give your answer to three significant figures.

[5 marks]
