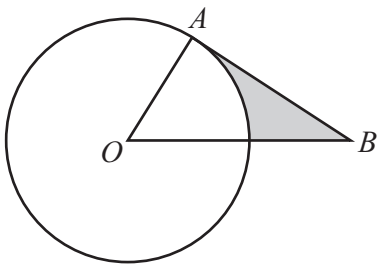
1



The diagram shows a circle with centre O and radius 5 cm.
The point A lies on the circle.
The point B is such that the line AB is a tangent to the circle.
OB has length 13 cm.

(a) Find angle AOB, giving your answer in radians. [2]

(b) Find the perimeter of the shaded region. [3]

(c) Find the area of the shaded region. [3]

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

2 **(a)** Find the x-coordinates of the stationary points on the curve $y = \frac{1}{2}(3-2x)(x+2)^2$. [4]

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN