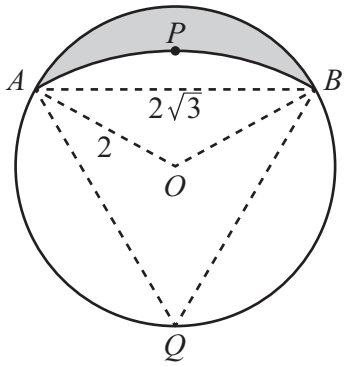
8 In this question the units are metres.



The diagram shows a circle, centre O and radius 2.
The chord AB has length $2\sqrt{3}$.
The point Q lies on the circle such that $AQ = BQ$.
The arc APB is part of a circle, centre Q.

(a) Find the exact value of angle AQB in radians. [2]

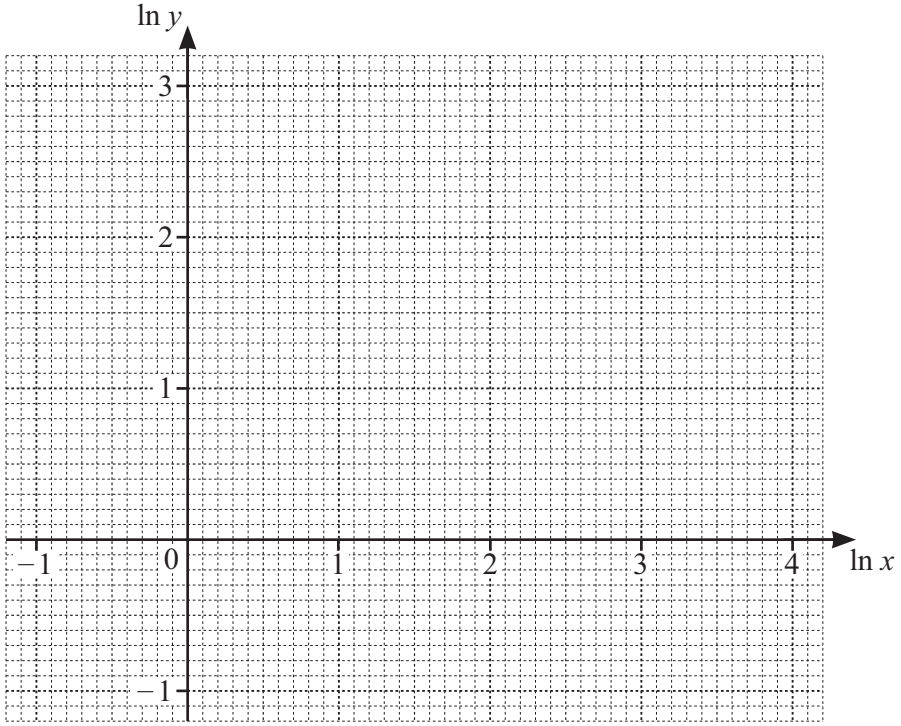
(b) Hence find the area of the shaded region. Give your answer in terms of π. [6]

DO NOT WRITE IN THIS MARGIN

9 Two variables, x and y, are related by an equation of the form $y = Ax^b$, where A and b are constants. The following pairs of values of x and y are given.

x	0.61	4.48	12.18	33.1
y	1.65	4.47	7.39	12.17

(a) On the axes below, use these values to draw the straight-line graph of $\ln y$ against $\ln x$. [2]



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