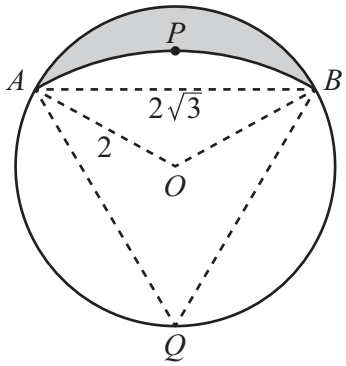
7 Solve the equation $\sec^2 3x + \tan 3x - 3 = 0$ for $0° \leqslant x \leqslant 120°$. [6]

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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]

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