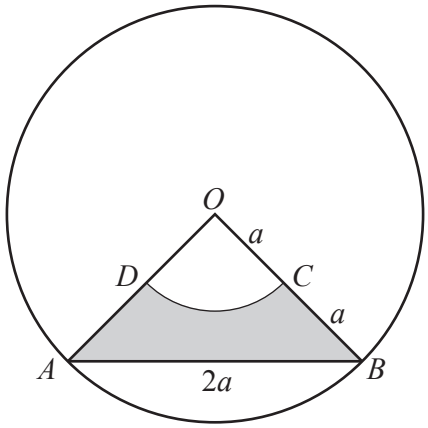
6



The diagram shows a circle, centre O, radius $2a$. The points A and B lie on the circumference of the circle. The points C and D are the mid-points of the lines OB and OA respectively. The arc DC is part of a circle centre O. The chord AB is of length $2a$.

(a) Find angle AOB, giving your answer in radians in terms of π. [1]

(b) Find, in terms of a and π, the perimeter of the shaded region $ABCD$. [2]

(c) Find, in terms of a and π, the area of the shaded region $ABCD$. [3]

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