



The diagram shows a metal plate $OABC$, consisting of a right-angled triangle OAB and a sector OBC of a circle with centre O . Angle $AOB = 0.6$ radians, $OA = 6$ cm and OA is perpendicular to OC .

- (i) Show that the length of OB is 7.270 cm, correct to 3 decimal places. [1]
- (ii) Find the perimeter of the metal plate. [3]
- (iii) Find the area of the metal plate. [3]