



The diagram shows a semicircle with centre O and radius 6 cm. The radius OC is perpendicular to the diameter AB . The point D lies on AB , and DC is an arc of a circle with centre B .

- (i) Calculate the length of the arc DC . [3]

[illegible]

(ii) Find the value of

$$\frac{\text{area of region } P}{\text{area of region } Q},$$

giving your answer correct to 3 significant figures.

[4]

[illegible]