

IB SL MATHEMATICS

REVIEW PACKET #2

1. Michele invested 1500 francs at an annual rate of interest of 5.25 percent, compounded annually.
 - (a) Find the value of Michele's investment after 3 years. Give your answer to the nearest franc. (3)
 - (b) How many complete years will it take for Michele's initial investment to double in value? (3)
 - (c) What should the interest rate be if Michele's initial investment were to double in value in 10 years? (4)

(Total 10 marks)

2. The following diagram shows a circle of centre O, and radius 15 cm. The arc ACB subtends an angle of 2 radians at the centre O.

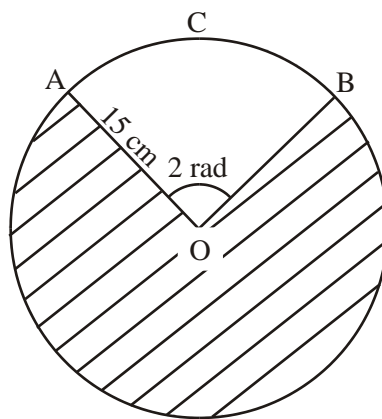


Diagram not to scale

$$\begin{aligned} \angle AOB &= 2 \text{ radians} \\ OA &= 15 \text{ cm} \end{aligned}$$

Find

- (a) the length of the arc ACB;
- (b) the area of the shaded region.

Working:

Answers:

- (a)
- (b)

(Total 6 marks)

3. Consider the expansion of $\left(3x^2 - \frac{1}{x}\right)^9$.

- (a) How many terms are there in this expansion?
- (b) Find the constant term in this expansion.

Working:

Answers:

- (a)
- (b)

(Total 6 marks)