

6

(a) The graph of $y = 3 \sin^2 \theta$ for $0^\circ \leq \theta \leq 360^\circ$ is shown in **Fig. 6**.

On the copy of **Fig. 6** in the Printed Answer Booklet, sketch the graph of $y = 2 \cos \theta$ for $0^\circ \leq \theta \leq 360^\circ$.

[2]

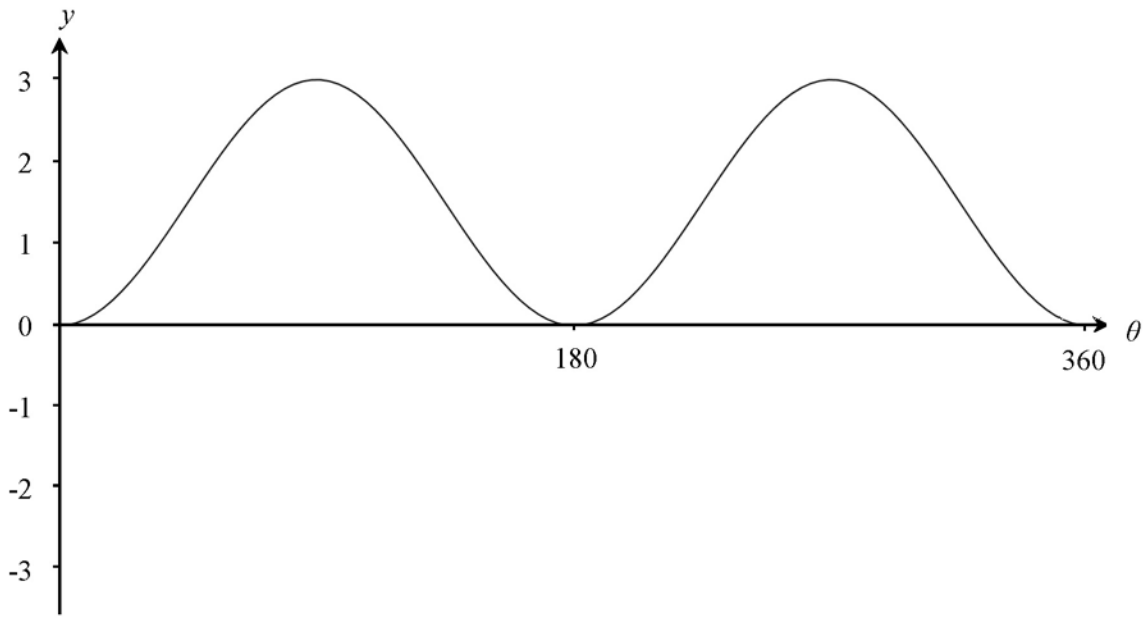


Fig. 6

(b) In this question you must show detailed reasoning.

Determine the values of θ , $0^\circ \leq \theta \leq 360^\circ$, for which the two graphs cross.

[6]