



Advanced Mathematics  
Support Programme®

## Edexcel A Level FM Revision Questions

### Polar curves

#### **Question 1**

- (i) Convert the curve  $(x-1)^2 + y^2 = 1$  to polar form.
- (ii) Convert the curve  $r = \frac{2}{1 + \cos \theta}$  to cartesian form, and sketch the curve, based on its cartesian form.

#### **Question 2**

- (i) Sketch the curve  $r = 5 + 4 \cos \theta$ .
- (ii) Without converting the curve to cartesian form, find the greatest negative  $x$ -coordinate of a point on the curve.
- (iii) Determine the area enclosed by the curve.

#### **Question 3**

- (i) Sketch the curve  $r^2 = \sin 2\theta$ .
- (ii) Show how to sketch the curve  $r^2 = \cos 2\theta$  by applying a transformation to  $r^2 = \sin 2\theta$ .
- (iii) Find the largest  $y$ -coordinate on the curve  $r^2 = \sin 2\theta$ . [Edx]