

**AQA, Edexcel, OCR, MEI**

**A Level**

# **A Level Mathematics**

## **C2 Curve Sketching (Answers)**

Name:

**M M E**

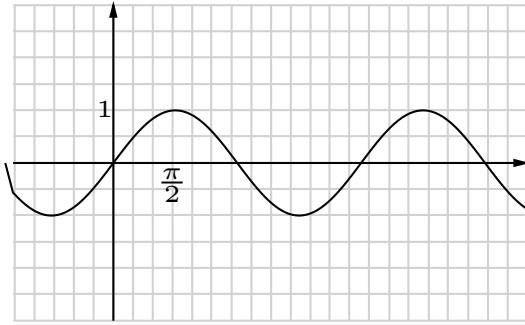
Mathsmadeeasy.co.uk

Total Marks: /26

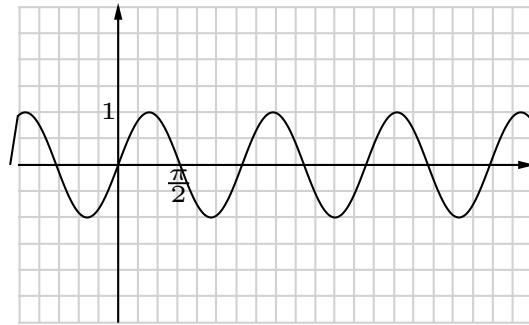
C2 - Curve Sketching (Answers)  
MEI, OCR, AQA, Edexcel

1. Consider the plots of four trigonometric functions below:

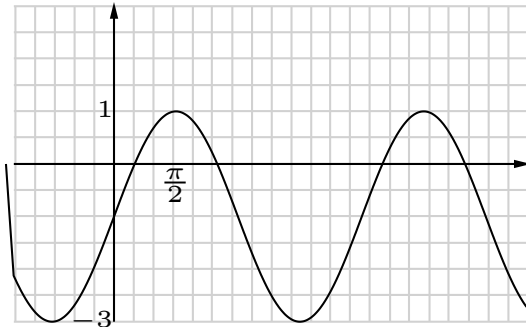
*i)*



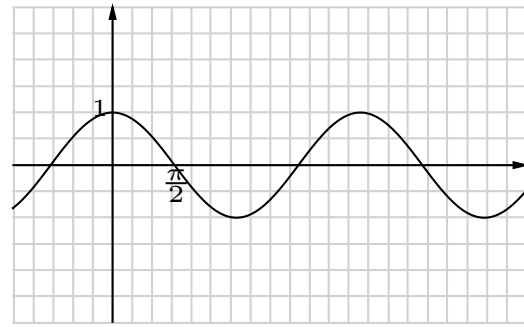
*ii)*



*iii)*



*iv)*



Match the following functions to the correct graph number *i, ii, iii, iv* above.

(a) *i*.

[2]

(b) *iii*.

[2]

(c) *iv*.

[2]

(d) *ii*.

[2]

2. True.

[1]

3. Consider the curve  $y = x^3 - x$ .

(a)  $y(0) = 0$ .

[1]

(b)  $(0, 0)$ ,  $(-1, 0)$  and  $(1, 0)$ .

[3]

(c) The curve has a minimum at  $(\frac{1}{\sqrt{3}}, -\frac{2\sqrt{3}}{9})$  and a maximum at  $(-\frac{1}{\sqrt{3}}, \frac{2\sqrt{3}}{9})$ .

[4]

(d)

[3]

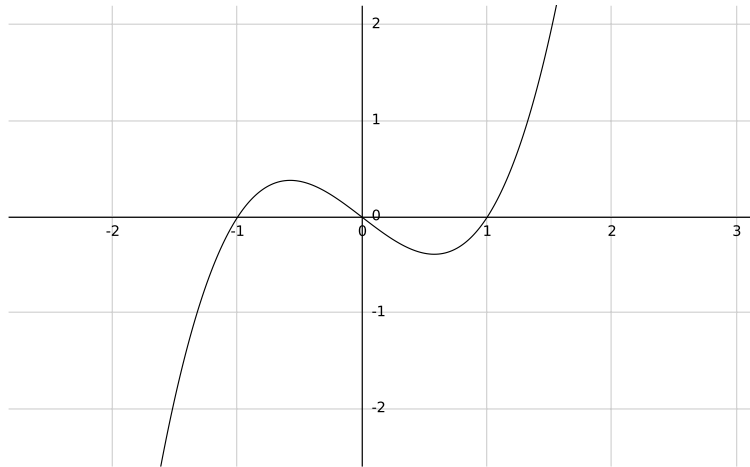


Figure 1:  $y = x^3 - x$ .

[3]

(e) On separate axes, sketch the graphs of  $y = x^3 - x + 1$ ,  $y = 2(x^3 - x) - 1$  and  $y = (x - 1)^3 - (x - 1)$ .

[6]

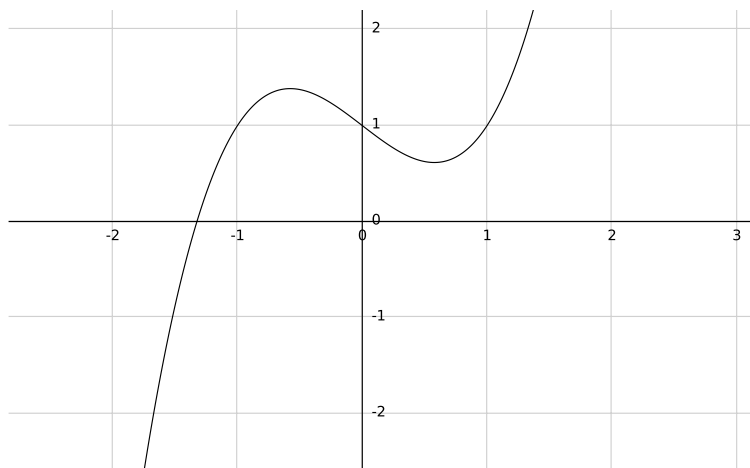


Figure 2:  $y = x^3 - x + 1$ .

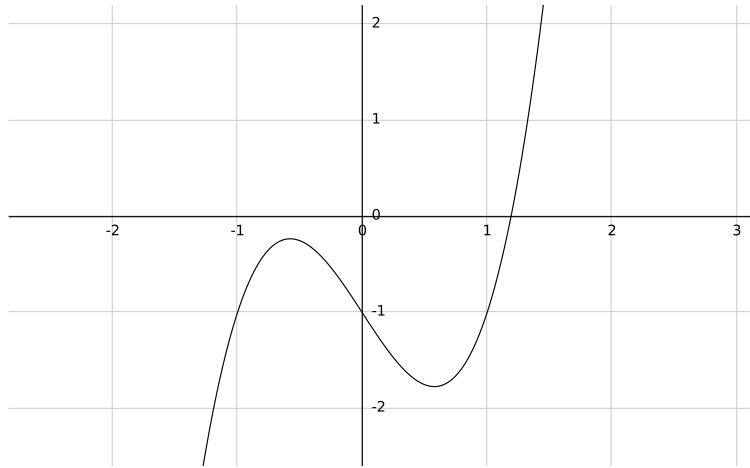


Figure 3:  $y = 2(x^3 - x) - 1$ .

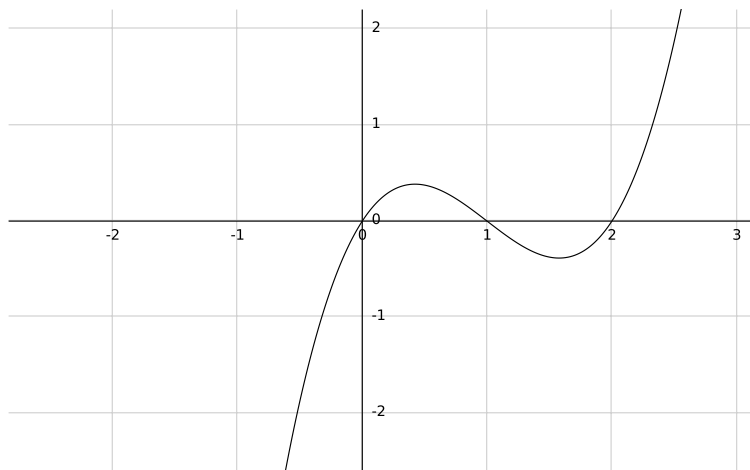


Figure 4:  $y = (x - 1)^3 - (x - 1)$ .