Sec 4 Maths

Exam papers with worked solutions

SET D

PAPER 2

ANSWER

Compiled by

THE MATHS CAFE

Q1 → Proving Qn

2. 2.37 (3 sf)

3. a) 1.26 b) $4x^2 - 81x + 162 = 0$

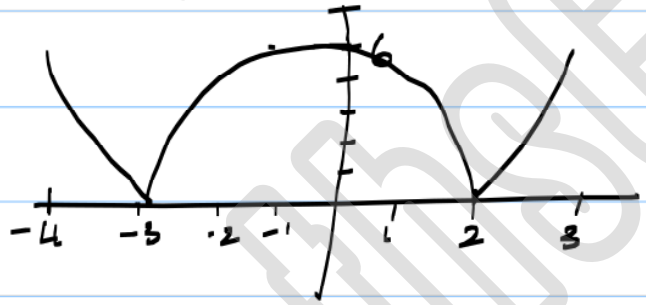
4. a)-c) Proving Question

5. i) $m = 3$ ii) -6804

6 a) $\frac{1}{2}$ b) i) Proving ii) 3 units^2

7 a) $x = -4, -1, 0, 3$

b)



c) Range $-4 < x < 1$ or $0 < x < 3$

8 Stationary point (0,0) (Minimum) (−1, 7.39) → maximum

9 i) C (3,2) $r = 5$

ii) B(8,2) A(0,6)

iii) AB = 8.94 or $\sqrt{80}$

9 (iv) $2x - y = 14$

10 a) $k = -4$

b) eqn. of normal $27x - 15y = 10$

c) 37 : 44

11. a) $P = 11\sin\theta + 11\cos\theta$

b) $15.6\cos(\theta - \pi/4)$

c) Max. Value $= 15.6$, $\theta = \pi/4$

12 i) Max. speed $= 21\frac{1}{8}$ m/s

ii) $t = -3/2$ (NA), 5 sec

iii) $S = \frac{7}{2}t^2 - \frac{2}{3}t^3 + 15t$

iv) average speed $14\frac{7}{18}$ m/sec.