

S4 Maths Set A Paper 2 Answer  
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# **Sec 4 Maths**

**Exam papers with worked solutions**

## **SET A PAPER 2 Answer**

Compiled by

**THE MATHS CAFE**

Answer Key

1. (i)  $\max = 5$ ,  $\min = -1$  (ii) amplitude = 3 period =  $180^\circ$

2. (ii)  $\frac{1}{4}$

3. (a)  $p = -2$  (b) smallest integer  $k = 4$

4.  $\frac{x+4}{(x+2)(x+1)^2} = \frac{2}{x+2} - \frac{2}{x+1} + \frac{3}{(x+1)^2}$  1.19

5. (a)  $h = \pm 9$ , (b)  $x^2 - 31x + 9 = 0$

6. (i)  $h = 1$  (ii)  $0 < x < 4$  (iii)  $9y = 6x^2 - x^3 + 13$

7. (ii)  $x = 9$ ,  $y = 6$   $A = 117 \text{ cm}^2$   $\frac{d^2A}{dx^2} = \frac{13}{2} > 0$  (min)

8. (a) 4.42 (b)  $y + 5x = 10$

9.(i)  $h = 12$  (ii)  $\theta = \frac{\pi}{6}, \frac{5\pi}{6}$

10. (a)  $h = 8$ ,  $k = 1$  remainder =  $-8\frac{1}{8}$

(b)  $f(x) = (x - 2)(3x - 1)(2x - 1)$

$k = 0, -1\frac{2}{3}, -1\frac{1}{2}$

11. (i) centre is (3, 5) radius = 13

(ii) A (-9, 0) B(15, 0) length of AB = 24 units

(iii) D is (15, 10)

(v)  $12y = 5x + 45$

(vi) centre is (-3, 5)  $x^2 + y^2 + 6x - 10y - 135 = 0$

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12. (a)  $x = -3, y = 1$     (b) (i)  $m = \pm 2$     (ii)  $A^{-1} = \begin{pmatrix} \frac{3}{4} & -\frac{5}{4} \\ -1 & 2 \end{pmatrix}$      $x = 3, y = -2$