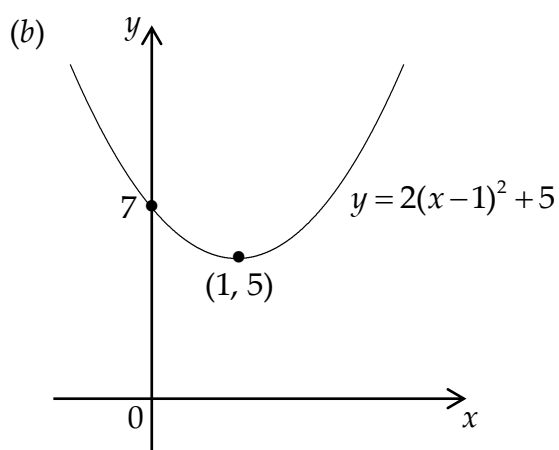


Paper 1**Section A**

- | | | | |
|-----|---|-----|---|
| 1. | D | 11. | D |
| 2. | D | 12. | A |
| 3. | C | 13. | C |
| 4. | A | 14. | C |
| 5. | B | 15. | A |
| 6. | A | 16. | C |
| 7. | D | 17. | C |
| 8. | D | 18. | B |
| 9. | A | 19. | B |
| 10. | D | 20. | C |

Section B

21. (a) $3x - y - 2 = 0$
(b) $x + y - 2 = 0$
(c) $(1, 1)$
22. Maximum turning point at $(2, 18)$
Minimum turning point at $(4, 14)$
23. (a) $2(x-1)^2 + 5$ or $2x^2 - 4x + 7$



24. (a) Proof
(b) $2\sin\left(x - \frac{\pi}{6}\right)$
(c) $\left\{\frac{\pi}{2}, \frac{5\pi}{6}\right\}$

Paper 2

$$1. \quad (a) \quad \overrightarrow{KL} = \begin{pmatrix} 2 \\ 2 \\ 4 \end{pmatrix} \text{ and } \overrightarrow{KM} = \begin{pmatrix} 4 \\ -1 \\ -4 \end{pmatrix}$$

$$(b) \quad 110.8^\circ \text{ or } 1.934 \text{ radians}$$

$$2. \quad (a) \quad (i) \quad \text{Show that } f(2) = 0 \quad (ii) \quad f(x) = (x+1)(x-2)(2x-1)$$

$$(b) \quad \left\{ -1, \frac{1}{2}, 2 \right\}$$

$$3. \quad (a) \quad x + y - 7 = 0$$

$$(b) \quad \text{Proof}$$

$$4. \quad (a) \quad (i) \quad \cos a = \frac{2}{\sqrt{5}} \quad (ii) \quad \cos 2a = \frac{3}{5}$$

$$(b) \quad \sin(2a+b) = \frac{3}{\sqrt{10}}$$

$$5. \quad x = \frac{17}{2}$$

$$6. \quad (a) \quad p = 3, q = 1 \text{ and } r = 2$$

$$(b) \quad \frac{3\pi}{2} \approx 4.712$$

$$7. \quad (a) \quad k = -0.139$$

$$(b) \quad 24.3\%$$

$$8. \quad (a) \quad \text{Proof}$$

$$(b) \quad x = 20$$