MEMORANDUM

Name: ..... Class: .....

Date: .....

MARK ____ / 14

Answer all questions. Show all your working — marks are awarded for method as well as the final answer. **Teacher copy: accept any correct equivalent method.**

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1 Write down the turning point of $y = 2(x + 2)^2 - 8$. **(1)**

> **$(-2\,;\,-8)$** ✓ (1)

2 Determine the x-intercepts of $y = 2(x + 2)^2 - 8$. **(3)**

> $(x + 2)^2 = 4 \rightarrow x + 2 = \pm 2 \rightarrow$ **$x = 0$ or $x = -4$** ✓✓✓ (3)

3 Determine the y-intercept of $y = 2(x + 2)^2 - 8$. **(2)**

> $x = 0 \rightarrow y = 8 - 8 =$ **0** ✓✓ (2)

4 Write down the equation of the axis of symmetry of $y = 2(x + 2)^2 - 8$. **(1)**

> **$x = -2$** ✓ (1)

5 Write down the range of $y = 2(x + 2)^2 - 8$. **(1)**

> **$y \geq -8$** ✓ (1)

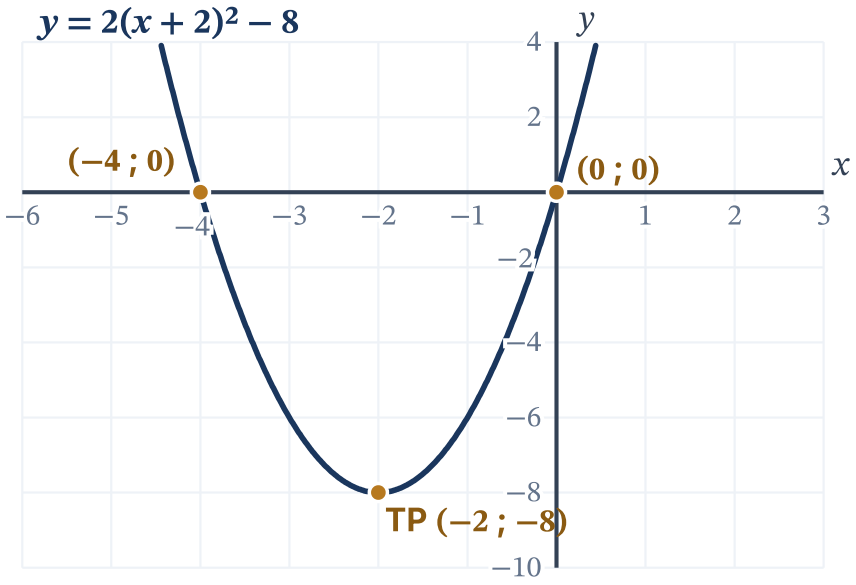
6 Write down the domain of $y = 2(x + 2)^2 - 8$. **(1)**

> **$x \in \mathbb{R}$** ✓ (1)

7 Write $y = x^2 - 6x + 5$ in the form $y = a(x + p)^2 + q$. **(3)**

> **$y = (x - 3)^2 - 4$** ✓✓✓ (3)

8 For what values of x is $y = 2(x + 2)^2 - 8$ increasing? **(2)**



To the right of the turning point: $x > -2$ ✓✓ (2)

TOTAL: 14 marks

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