# The Parabola: $y = a(x + p)^2 + q$ (Grade 11)

## WORKSHEET

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

Date: .....

MARK ____ / 14

*Answer all questions. Show all your working — marks are awarded for method as well as the final answer.*

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

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

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

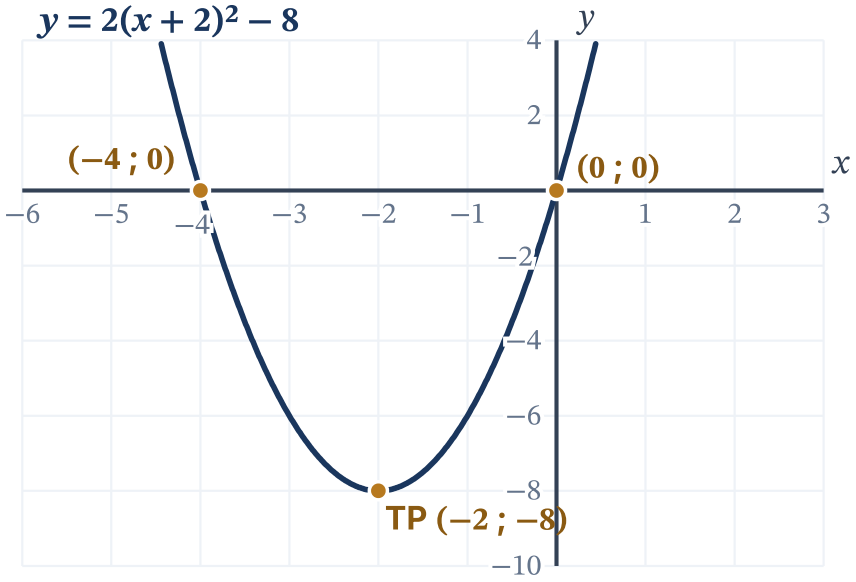
**4** Write down the equation of the axis of symmetry of $y = 2(x + 2)^2 - 8$. (1)

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

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

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

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




**TOTAL: 14 marks**

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