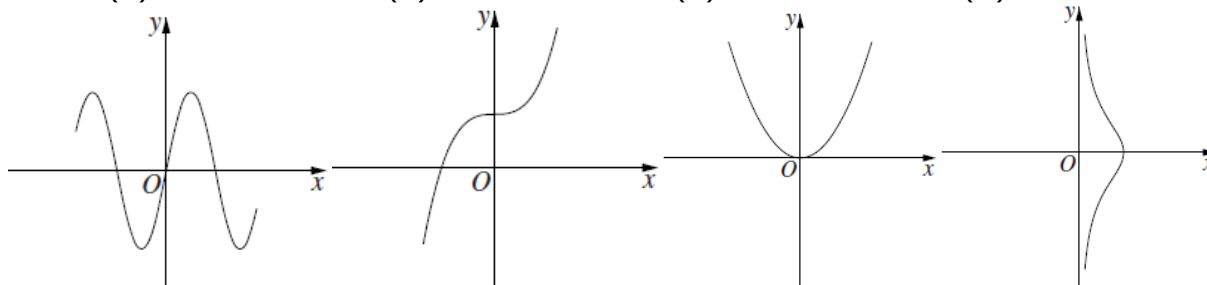**Real Functions of a Real Variable and Their Geometrical Representation**
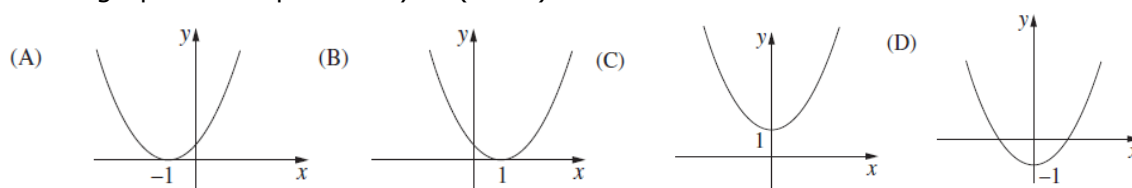
| 16 | 4 | Which diagram best shows the graph of an odd function? | 1 | |

(A)   (B)   (C)   (D)

| 16 | 11 a | Sketch the graph of $(x - 3)^2 + (y + 2)^2 = 4$. | 2 | |

| 15 | 13 b | (i) Find the domain and range for the function $f(x) = \sqrt{9 - x^2}$. | 2 | |
| | | (ii) On a number plane, shade the region where the points (x, y) satisfy both of the inequalities $y \leq \sqrt{9 - x^2}$ and $y \geq x$. | 2 | |

| 14 | 2 | Which graph best represents $y = (x - 1)^2$? | 1 | |

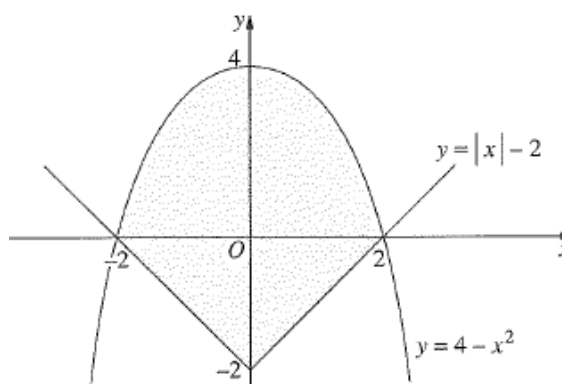(A)   (B)   (C)   (D)

| 13 | 3 | Which inequality defines the domain of the function $f(x) = \dfrac{1}{\sqrt{x + 3}}$? | 1 | |
| | | (A) $x > -3$ (B) $x \geq -3$ (C) $x < -3$ (D) $x \leq -3$ | | |

| 13 | 11 g | Sketch the region defined by $(x - 2)^2 + (y - 3)^2 \geq 4$. | 3 | |

| 11 | 4e | The diagram shows the graphs of $y = |x| - 2$ and $y = 4 - x^2$. Write down the inequalities that together describe the shaded region. Not to scale | 2 | |

| 10 | 1c | Write down the equation of the circle with centre $(-1, 2)$ and radius 5. | 1 | |

| 10 | 1g | Let $f(x) = \sqrt{x - 8}$. What is the domain of $f(x)$? | 1 | |

| 09 | 3c | Shade the region in the plane defined by $y \geq 0$ and $y \leq 4 - x^2$. | 2 | |

| 06 | 1c | Sketch the graph of $y = |x + 4|$. | 2 | |