

**REAL FUNCTION REVISION ANSWERS**

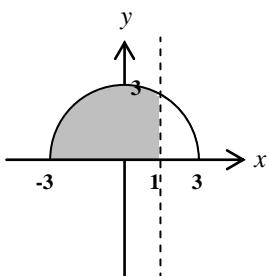
1. (a) circle
- (b) hyperbola
- (c) exponential
- (d) straight line
- (e) parabola
- (f) semicircle
- (g) hyperbola
- (h) hyperbola
- (i) straight line
- (j) semi-circle
- (k) exponential
- (l) straight line
- (m) straight line
- (n) exponential
- (o) parabola
- (p) circle

2. (a) D:  $-3 \leq x \leq 3$ , R:  $-3 \leq y \leq 3$
- (d) D: all real  $x$ , R: all real  $y$
- (g) D: all real  $x$ ,  $x \neq 0$ , R: all real  $y$ ,  $y \neq 3$
- (i) D:  $x = 3$ , R: all real  $y$
- (j) D:  $-5 \leq x \leq 5$ , R:  $-5 \leq y \leq 0$
- (n) D: all real  $x$ , R:  $y < 0$

$$\begin{aligned} 3. f(-x) &= (-x)^3 - 2(-x) \\ &= -x^3 + 2x \\ \therefore \text{not an even function} \end{aligned}$$

$$\begin{aligned} \text{but, } -x^3 + 2x &= -1(x^3 - 2x) \\ \therefore \text{it is an even function} \end{aligned}$$

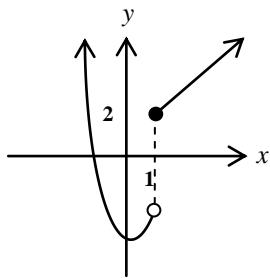
4.



$$\begin{aligned} 5. f(2) &= (2)^3 - 2(2) \\ &= 8 - 4 \\ &= 4 \end{aligned}$$

$$\begin{aligned} f(-1) &= (-1)^3 - 2(-1) \\ &= -1 + 2 \\ &= 1 \end{aligned}$$

6.



7.

