Subject: Home work (12) Date: / /

1) (d) → $F(x) = x \sin x$ Even
odd × odd

2) (a) → $F(x) = x^2 \sin x$
even × odd → odd

3) (a) → $F(x) = \frac{\sin x}{x}$ → odd / odd → Even

4) (b) → $F(x) = x \cos x$
odd × even = odd

5) (a) → $F(x) = \sin x$ odd

6) (c) → $y = x^2 + \sin x$
even + odd → Neither even nor odd

7) (b) → odd Function → $-F(x) = F(-x)$ $(\div -1)$
↳ $F(x) = -F(-x)$

8) (b) → odd function → $(a,b) \to (-a,-b) \to (1,2)$
↳ $(-1,-2)$

9) (a) → $F(a) + F(-a) =$ Zero

10) (c) → $F(a) - F(-a) = 2F(a)$

11) (a) → $F(a) = F(-a)$ Zero

12) (d) → $F(2) + F(-2) = 2F(2)$

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13 (d) → odd function ⇝ {5, 0, -5}
wrong because the function is symmetric on the origin Point

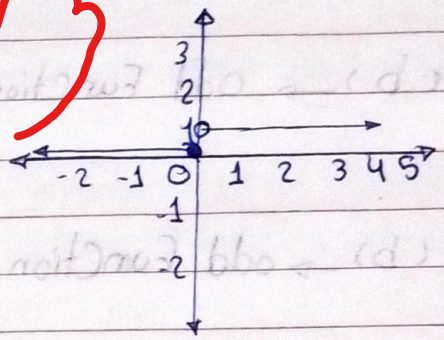
14 (a) → $f(x) = (x + \sin x) \times (\text{odd}) = \text{even}$
$x^3 + \tan x$ →

15 (d) → even ⇝ (a, b) → (-a, b)
↳ (3, 5) → (-3, 2m+1)
↳ (2m+1)
$2m+1 = 5 \Rightarrow m = 2$

1 (c) → $f(x) = 5$ → Constant (R)

2 (a) → Range = ℝ {7}

3 (d) → Range = {0, 1}



4 (b) → Range on y-axis
↳ {1, -1}

5 (d) → $f(x) = \frac{3x^2 - 3}{x^2 - 1} \rightarrow 3f(x) = \frac{x^2 - 1}{x^2 - 1}$
↳ Range = {3}

6 (a) → $f(x) = \frac{x^2 - 3x}{x}$, $x \neq 0$
↳ (÷x) → $f(x) = x - 3$
↳ Range = ℝ (d)

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7) (a) → $f(x) = \frac{2x^3 - 2x}{x^2 - 1}$ → $f(x) = \frac{2x(x^2 - 1)}{x^2 - 1} = 2x$

↳ Range = $R - \{1, -1\}$ (b)

8) (a) → $F: [-2, 3[\to R$, $F(x) = x^2$

↳ $[-2, 3[\rightsquigarrow [4, 9[$ (c)

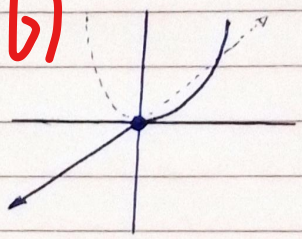
9) (d) → $x > 0$, $x \leq 0$ ⇝ Range = R (c)

10) (d) → Point (2, -2) (c)

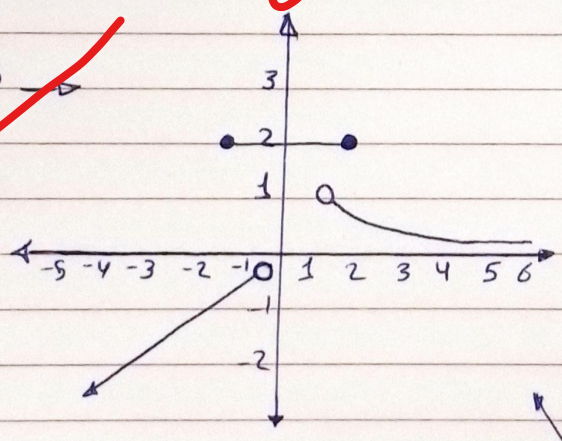
11) (d) → $F(x) = x^2$ → x = zero ✓

12) (d) → Don't know the reason

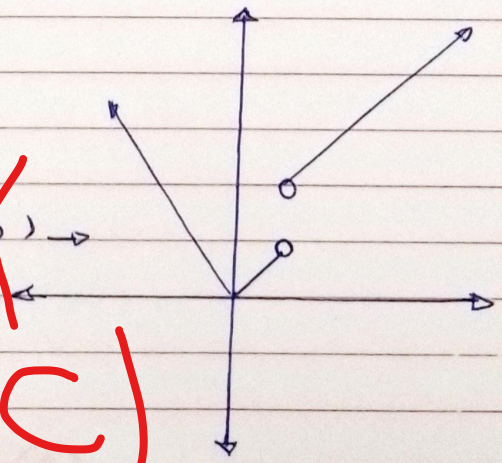
13) (b) → $F(x) = \begin{cases} x^2, & x > 0 \\ x, & x \leq 0 \end{cases}$ (b)



14) (b) →



15) (b) →



(c)