

الف)  $y = \left(x - 2\left[\frac{x}{4}\right]\right)^2$  (اوه)  $y = 4\left(\frac{x}{4} - \left[\frac{x}{4}\right]\right)^2$  (اوه)  $R = [0, 4]$

ب)  $\sin x + \log y - 4 = 0$   
 $\log y = 4 - \sin x$   
 $1 - \sin x \leq \log y \leq 5$   
 $0 \leq y \leq 10$

الف)  $f(x) = \sqrt{\frac{x^2-4}{x^2-9}}$   $R = [a, b] \cup (c, +\infty)$   $a+b+c = ? \rightarrow 0 + \frac{2}{3} + 1 = \frac{5}{3}$

ب)  $f(x) = \sqrt{\frac{x^2-4}{x^2-9}}$   $R = [0, \frac{2}{3}] \cup (1, +\infty)$

الف)  $f(x) = x + \frac{1}{x} + 2\sqrt{x + \frac{1}{x}}$   $f(x) = (\sqrt{x + \frac{1}{x}} + 1)^2 - 1$

ب)  $y = (3 - \sin x)(1 + \sin x)$   
 $- \sin^2 x + 2 \sin x + 3 = y$   
 $\sin x \rightarrow -1 \rightarrow 0$   
 $\sin x \rightarrow 1 \rightarrow 4$

الف)  $f(x) = -\frac{1}{3}x + 1$   $D_f = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

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الف)  $g(x) = \sqrt{bx^2 + ax - xc} = \sqrt{x^2 - 4}$   $R_{h(x)} = x[-4, +\infty) \Rightarrow R_g = [0, +\infty)$

ب)  $g(x) = \sqrt{x^2 + 2} \rightarrow R_g = [2, +\infty)$

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