

پہلے افیلن عالی و مرتب نوٹس

نام و نام خانوادگی: پاسخنامہ تشریحی تکلیف شماره: کلاس: نام درس: A	
$f(\omega) = f(-r) + a \rightarrow 2(Va + V) = 2a - f + a \rightarrow 12a + 12 = 2a - f \rightarrow 10a = -12$ $\Rightarrow a = -1.2$ $f(\omega) = Va + V$ $f(-r) = 2a + 2(-r) = 2a - f$	1
$f(2-\sqrt{3}) = \sqrt{2-\sqrt{3}} + \frac{1}{\sqrt{2-\sqrt{3}}} + 2$ $= \frac{\sqrt{2+\sqrt{3}}}{1} \times \frac{\sqrt{2+\sqrt{3}}}{\sqrt{2+\sqrt{3}}} + \frac{1}{\sqrt{2-\sqrt{3}}} + 2$ $= \frac{\sqrt{2+\sqrt{3}}}{1} + \frac{1}{\sqrt{2-\sqrt{3}}} + 2$ $2(\sqrt{2-\sqrt{3}} + \sqrt{2+\sqrt{3}} + 2) = 2(\sqrt{6} + 2) = 2\sqrt{6} + 4$ $A^2 = (2-\sqrt{3}) + (2+\sqrt{3}) + 2\sqrt{1} = 6 \Rightarrow A = \sqrt{6}$	2
$\begin{cases} 2f(x) - 2f(-x) = 2x^2 - x & \times x^2 \rightarrow f(x) - f(-x) = 1x^2 - 2x \\ 2f(-x) - 2f(x) = 2x^2 + x & \times x^2 \rightarrow f(-x) - f(x) = 1x^2 + 2x \end{cases}$ $- \omega f(x) = 2x^2 + x \Rightarrow$ $\Rightarrow f(x) = \frac{2x^2 + x}{-\omega}$	3
$x=0 \rightarrow 2f(0) - 2(0)f(0+r) = f(0)^2 - m(0) + 2m-1 \Rightarrow 2f(0) = 2m-1$ $x=-r \rightarrow f(2+r)f(-r) - 2(-r)f(0) = f(-r)^2 - m(-r) + 2m-1 \Rightarrow 2f(0) = 1\omega + 2m$ $2f(0) = 1\omega + 2m \rightarrow$ $2 \times 2f(0) = 2 \times (2m-1) = 2f(0) = 2m-1 \Rightarrow 2m-1 = 1\omega + 2m \rightarrow 1\omega = -1 \Rightarrow \omega = -1$ $\Rightarrow 2f(0) = 2m-1 \Rightarrow 2f(0) = 2\left(\frac{1}{2}\right) - 1 \Rightarrow f(0) = \frac{1}{2}$	4
$f(x) + f\left(\frac{1}{x}\right) = \frac{2x^2 - 12x + 3}{x} \rightarrow f(x) + f\left(\frac{1}{x}\right) = 2x - 12 + \frac{3}{x} \rightarrow$ $ax + 2b + \frac{a}{x} = 2x - 12 + \frac{3}{x} \Rightarrow \begin{cases} a=2 \\ b=-12 \end{cases} \Rightarrow f(x) = 2x - 12 \xrightarrow{x=-1} f(-1) = -10$	5

$\left. \begin{aligned} f(x) &\rightarrow D_f = 1-x \geq 0 \rightarrow x \leq 1 \\ g(x) &\rightarrow D_g = 1-x \geq 0 \rightarrow x \leq 1 \end{aligned} \right\} D_f = D_g \checkmark$ $x=0 \rightarrow f(0) = (-1)\sqrt{1} = -1$ $x=0 \rightarrow g(0) = -\sqrt{1} = -1 \checkmark$ $f(x) = g(x) \quad \text{پ}$	۶
$\left. \begin{aligned} f(x) &\rightarrow D_f = x \geq 0 \rightarrow x \geq 0 \\ g(x) &\rightarrow D_g = x^2 \geq 0 \rightarrow x \geq 0 \end{aligned} \right\} D_f = D_g \quad \text{پ}$ $x=4 \rightarrow \begin{cases} f(4) = 4\sqrt{4} = 8 \\ g(4) = \sqrt{4^3} = 8 \end{cases} \quad f=g$	۷
$f(x) \rightarrow x \geq 0 \quad (1)$ $g(x) \rightarrow x - x \geq 0 \rightarrow x \geq x \Rightarrow x \geq 0 = D_f \quad \text{پ}$ $\left. \begin{aligned} f(4) &= [\sqrt{4} - [\sqrt{4}]] = [2 - [2]] = 0 \\ g(4) &= \sqrt{4-4} = \sqrt{0} = 0 \end{aligned} \right\} f=g$	۸
$\text{الف) } \frac{f(1)+g(1)}{f(1)-g(1)} = \frac{2+1}{2-1} = 3 \quad \text{پ}$ $\Rightarrow \frac{f(2)+g(2)}{f(2)-g(2)} = \frac{3+3}{3-3} = \frac{6}{0} \quad \text{تعریف نشده}$ $f(2) \times g(-1) = 0 \times 1 = 0$	۹
$x-1 \neq 0 \Rightarrow g(x) = \left\{ (0,1), (0,4), \left(\frac{1}{3}, 5\right), \left(-\frac{1}{3}, 2\right), \left(\frac{2}{3}, -1\right) \right\}$ $\text{و روی ها باید غیر متغیر باشند یعنی (ب) } \Rightarrow h(x) = \left\{ (0,5), (2,1), (-2,1), (3,-1), (-3,-1) \right\}$	۱۰