

نام و نام خانوادگی: امیرعلی خامنه‌ای پاسخنامه تشریحی تکلیف شماره ۷ کلاس ۱۰ A

$$y = f(x)$$

$$y = \sqrt{x f(x)}$$

$$x f(x) \geq 0$$

$$D_f = [-2, 0] \cup [2, 4]$$

	-2	-1	0	1	2	3	4
x	-	-	0	+	+	+	+
$f(x)$	+	0	-	-	0	+	0
$x f(x)$	-	0	0	-	0	+	0

۳

$$y = \sqrt{\frac{-x}{f(x)}}$$

$$\frac{-x}{f(x)} \geq 0 \rightarrow f(x) \neq 0$$

$$D_f = (-3, 0) \cup (0, 2)$$

$$\begin{aligned} -3 < x < 0 &\rightarrow x < 0 < 2 \\ &\rightarrow x < -1 \end{aligned}$$

	-3	-2	-1	0	1	2	3
$-x$	+	+	0	-	-	-	-
$f(x)$	-	0	+	0	-	0	+
$\frac{-x}{f(x)}$	-	+	+	+	+	-	-

۳

معامل ۳ عدد

$$f(2) - 2f(f(2)) = 4 - 2 + 4 = 2 \quad \text{جاگذاری:} \quad f(2) = -2$$

$$f(-2) + 2f(-2) = 6 + 2 + 8 = 16 \quad f(-2) = 10$$

۲

$$f(f(0)) + f(f(1)) = 7 + 2 = 9$$

$\underbrace{f(0)=0}_{2 \times 0 + 7 = 7} \quad \underbrace{f(1)=1}_{2 \times 1 + 7 = 9}$

۵

$$f(x-1) + f(x) = 7x + 2 \quad f(0) = f(1) = 7 + 2$$

$$f(x) = ax^2 - bx + 2 \rightarrow f(1) = a - b + 2$$

$$\rightarrow f(0) = 2$$

$$1 + a - b + 2 = 7 + 2$$

$$a - b = 2$$

$$\rightarrow 2 - a + b - 2 = 1 \rightarrow -a + b = 1 \rightarrow a - b = -1$$

۵

$$f(x) = \frac{x^2 + 9x + 14}{x^2 + 15x + 14} = \frac{x^2 + 9x + 14 + 1}{x^2 + 9x + 14 + 1} = \frac{(x+2)^2 + 1}{(x+2)^2 + 1}$$

$$\frac{(\sqrt{13} - 2 + 2)^2 + 1}{(\sqrt{13} - 2 + 2)^2 + 1} = \frac{8}{9}$$

3

$$\frac{x^2}{x^2} + \frac{1}{x^2} \rightarrow \frac{x^2}{x^2} + \frac{1}{x^2} \quad (x - \frac{1}{x})^2 + 2 \rightarrow f(x) = x^2 + 2$$

2

$$(-3)^2 + 2 \rightarrow 9 + 2 = 11$$

$$\frac{y}{g} = \left\{ \left(0, \frac{2}{3}\right), \left(1, \frac{-2}{\sqrt{11}}\right), \left(2, \frac{0}{\sqrt{25}}\right) \right\}$$

الف

3

$$\frac{g}{f} = \left\{ \left(0, \frac{2}{3} = 1\right), \left(1, \frac{\sqrt{11}}{-2}\right) \right\}$$

ب

$$f(x+1) = \left\{ (2, 2), (3, 4), (-5, 3), \left(1, \frac{1}{-1}\right) \right\}$$

$$f^2(x) = \left\{ (2, 2), (3, 4), (-5, 4), \left(1, \frac{-4}{-1}\right) \right\}$$

الف

$$f(g) = \left\{ (1, 1), \left(\frac{3}{2}, 2\right), \left(\frac{-5}{2}, 3\right), \left(\frac{1}{2}, -2\right) \right\}$$

$$f^2(x) + 1 = \left\{ (2, 2), (3, 4), (-5, 4), \left(1, \frac{1}{-1}\right) \right\}$$

ج

2

$$f-g = \left\{ (1, 2), (2, 2), (3, 2) \right\}$$

د

2

$$\frac{f}{g} = \left\{ (2, 2), (3, -2) \right\}$$

هـ