

طایف سماره: V

نام خانوادگی: کتایبیان پایه: دهم کلاس: B

۲. آفرین!

$$y = f(x)$$

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

$$D_f = [-4, 5]$$

x	$f(x)$	$x f(x)$
-4	-	-
-3	+	-
-2	-	-
-1	+	-
0	-	0
1	+	+
2	-	-
3	+	+
4	-	-
5	+	+

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

$$D_f = [r, 5] \cup [-4, 0]$$

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

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

$$x \leq -f(x)$$

x	$f(x)$	$-x$	$-x/f(x)$
-3	-	+	-
-2	+	-	-
-1	-	+	-
0	+	0	0
1	-	-	+
2	+	-	-
3	-	+	-
4	+	-	-
5	-	+	-

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

$$D_f = (-3, 2) \setminus \{0\}$$

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$$f(x) - 2f(r) = x^2 - 2x + 8$$

$$\text{if } x = -2$$

$$f(-2) - 2f(r) = \frac{r^2 + 4 + 8}{18}$$

$$\text{if } x = r$$

$$f(r) - 2f(r) = r^2 - 4 + 8$$

$$f(r) = 18 - 8 = 10$$

$$-f(r) = r \Rightarrow f(r) = -r$$

$$f(-2) = 10$$

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$$f(x) = \begin{cases} x - \sqrt{x+8} & ; x \geq 3 \\ 2x + 3 & ; x < 3 \end{cases}$$

$$f(f(x)) + f(f(1)) = 9$$

$$\Rightarrow x + 2 = 9$$

$$x - \sqrt{x+8} = 9 \Rightarrow x - 9 \leq 3$$

$$2x + 3 = 9 \Rightarrow 2x = 6 \Rightarrow x = 3$$

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$$f(x) = ax^2 - bx + r$$

$$f(x-1) - f(x) = 4x + r$$

$$a(x-1)^2 - b(x-1) + r$$

$$ax^2 + a - 2ax - b + r - ax^2 + bx - r$$

$$= a(x^2 - 2x + 1) - bx + b + r$$

$$a + b - 2ax = 4x + r$$

$$a - b = -r - a = -1$$

$$= ax^2 + a - 2ax - bx + b + r$$

$$\Rightarrow a = -r$$

$$a + b = r \Rightarrow b = a + r$$

$$f(x) = \frac{x^2 + 4x + 4}{x^2 + 4x + 4}$$

$$f(r-r) = ?$$

$$f(x) = \frac{x(x+4) + 4}{x(x+4) + 4}$$

$$x+4 \sqrt{r-r+4} = \sqrt{r+4}$$

$$f(r-r) = \frac{(r-r)(r+r) + 4}{(r-r)(r+r) + 4}$$

$$r-r = -1 = x(r-r)(\sqrt{r+4})$$

$$\frac{-1+4}{-1+4} = \frac{\frac{r}{4} = \frac{r}{4}}$$

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

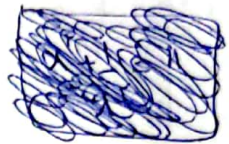
$$f(-r) = ?$$

$$\frac{x^2}{x^2} + \frac{1}{x^2} = x^2 + \frac{1}{x^2}$$

$$x-\frac{1}{x} = -r$$

$$(x-\frac{1}{x})^2 = 9$$

$$x^2 + \frac{1}{x^2} - 2 = 9$$



$$f(x-\frac{1}{x}) = (x-\frac{1}{x})^2 + 2 = 11$$

جواب = 11

$$f(x) = \{(2,0), (1,-1), (0,2), (5,1)\}$$

$$g(x) = \sqrt{4-x^2} \quad 9-x^2 \leq 0 \quad 9 \geq x^2 \quad 3 \geq |x| \quad -3 \leq x \quad Dg = [-3,3]$$

$$f \cap g = \{(0, \frac{2}{\sqrt{5}}), (1, -\frac{\sqrt{5}}{2}), (2, 0)\}$$

$$b) \frac{g}{f} = \{(0, \frac{3}{2}), (1, -\frac{\sqrt{5}}{2}), (\frac{2}{\sqrt{5}}, \frac{5}{2})\} = \{(0, \frac{3}{2}), (1, -\frac{\sqrt{5}}{2})\}$$

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

$$a) 2f(x) = \{(2,2), (6,8), (-10,4), (2,-4)\}$$

$$b) f(x)+1 = \{(1,2), (3,5), (-5,3), (1,-1)\}$$

$$c) 3f(x)+1 = \{(4,4), (10,13), (-14,7), (4,-5)\}$$

$$d) f(2x) = \{(2,1), (6,4), (-10,2), (2,-2)\}$$

$$f(x) = \{(0,3), (5,2), (0,4), (3,1), (4,2)\} \quad g(x) = \{(0,0), (0,1), (-1,4), (-5,0), (-1,1)\}$$

$$f \cap g = \{(1,4), (2,2), (3,2)\} \quad Df \cap Dg = \{1,2,3\}$$

$$b) \frac{f}{g} = \{(2,4), (3,-2), (\frac{1}{2}, \frac{4}{3})\} = \{(2,4), (3,-2)\}$$