

کتاب و تاج

«بسم خدا»

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یار و هم در خیر A

آریانیان

$$\frac{x(a+1)}{15a+15} = \frac{15a}{15a+15} - \frac{1}{15a+15} \rightarrow 10a = -11 \rightarrow a = -\frac{11}{10} \rightarrow \boxed{-1.1} \quad (2)$$

$$\sqrt{2-\sqrt{3}} + \frac{1}{\sqrt{2-\sqrt{3}}} + 2 + \sqrt{2+\sqrt{3}} + \frac{1}{\sqrt{2+\sqrt{3}}} + 2 = \quad (1)$$

$$\frac{1}{\sqrt{2-\sqrt{3}}} \times \frac{\sqrt{2+\sqrt{3}}}{\sqrt{2+\sqrt{3}}} = \frac{\sqrt{2+\sqrt{3}}}{\sqrt{4-3}} = \sqrt{4-3} = 1$$

$$\frac{1}{\sqrt{2+\sqrt{3}}} \times \frac{\sqrt{2-\sqrt{3}}}{\sqrt{2-\sqrt{3}}} = \frac{\sqrt{2-\sqrt{3}}}{\sqrt{4-3}} = \sqrt{4-3} = 1$$

$$2(\sqrt{2-\sqrt{3}} + \sqrt{2+\sqrt{3}}) + 4$$

A

$$A^2 = \sqrt{2-\sqrt{3}} + \sqrt{2+\sqrt{3}} + 2\sqrt{(2-\sqrt{3})(2+\sqrt{3})} = \sqrt{4} \Rightarrow A = \sqrt{4}$$

$$\boxed{2\sqrt{4} + 4} \quad (2)$$

$$\begin{aligned} 1f(x) - 3f(-x) &= 4x^2 - x \xrightarrow{x^2} 4f(x) - 9f(-x) = 16x^2 - 2x \\ 2f(-x) - 3f(x) &= 4x^2 + x \xrightarrow{x^2} 4f(-x) - 9f(x) = 12x^2 + 3x \\ \hline -8f(x) &= 20x^2 + x \\ f(x) &= -\frac{5}{4}x^2 - \frac{x}{8} \end{aligned} \quad (4)$$

$$(x+2)f(x) - 3xf(x+2) = 4x^2 - mx + m - 1 \quad (5)$$

$$x=0 \rightarrow 2f(0) = m-1 \xrightarrow{x=0} 10f(0) = 10m-1$$

$$x=-2 \rightarrow 4f(0) = 10m + 10 \xrightarrow{x=2} \begin{cases} 10f(0) = 10m-1 \\ 11f(0) = 10m+10 \end{cases}$$

$$11f(0) = 10m$$

$$f(0) = \frac{10m}{11} = \frac{10}{11} \quad (2)$$

$$f(x) + f\left(\frac{1}{x}\right) = \frac{3x^2 - 12x + 1}{x}$$

$$f(-1) + f(-1) = \frac{3+12+1}{-1} \rightarrow 2f(-1) = -16$$

$$f(-1) = -8$$

$$(f(x) = ax+b): ax+b + \frac{a}{x} + b = \frac{3x^2 - 12x + 1}{x} - 16$$

$$-2a + 2b = -16$$

$$-a + b = -8$$

$$f(-1) = -a + b$$

$$D_f = 1-x > 0$$

$$x < 1$$

$$D_g = (1-x) > 0$$

$$x < 1$$

$$x = 0$$

$$f(x) = -1$$

$$g(x) = -1$$

Küresel

$$D_f = x > 0$$

$$D_g = x > 0$$

$$x = 1$$

$$f(x) = 1$$

$$g(x) = 1$$

Küresel

$$D_f = x > 0$$

$$D_g = x > 0$$

$$x > |x|$$

$$f(x) = [A - \{A\}]$$

$$A = \sqrt{x}$$

$$0 < f(x) < 1$$

$$\{f(x)\} = 0$$

$$g(x) = 0$$

$$x - |x| \xrightarrow{x \geq 0} 0$$

$$a) f(1) = 2$$

$$g(1) = 1$$

$$\frac{2+1}{2} = 1.5$$

$$b) f(2) = 3$$

$$g(2) = 2$$

$$\frac{3+2}{2} = 2.5$$

$$\frac{3+2}{2} = 2.5$$

$$c) f(0) = 0$$

$$g(-1) = 1$$

$$0 \times 1 = 0$$

$$f(x) = 2$$

$$x = 1$$

$$2x - 1 = 2$$

$$x = \frac{3}{2}$$

$$b) |x| = 2$$

$$x = \pm 2$$

$$|x| = -1$$

$$|x| = 0$$

$$x = 0$$

$$|x| = -2$$

$$|x| = 2$$

$$x = \pm 2$$

$$(2, 2), (0, 0), (1, 1)$$

$$(-1, -1)$$

$$h(x)$$

$$2x - 1 = 0$$

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

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