

نام و نام خانوادگی پاسخنامه تشریحی تکلیف شماره کلاس یا زده هم دختر B.....

$$f(x) = (a+1)(x) = ax + x$$

$$f(-2) = 3a - 5$$

$$14a + 14 = 3a - 5 + a$$

$$10a = -19$$

$$a = -1.9$$

1

$$x = 2 - \sqrt{3} \rightarrow \frac{1}{x} = 2 + \sqrt{3}$$

$$(\sqrt{x} + \frac{1}{\sqrt{x}})^2 = \frac{1}{x} + x + 2 \rightarrow 2 - \sqrt{3} + 2 + \sqrt{3} + 2 = 6 \rightarrow \sqrt{x} + \frac{1}{\sqrt{x}} = \sqrt{6}$$

2

$$f(2 - \sqrt{3}) + f(2 + \sqrt{3}) = 2 \times (\sqrt{6} + 2) = 4 + 2\sqrt{6}$$

$$\times 2 \left\{ \begin{array}{l} 2f(x) - 3f(-x) = 5x^2 - x \\ 2f(-x) - 3f(x) = 5x^2 + x \end{array} \right.$$

$$\times 3 \left\{ \begin{array}{l} 2f(x) - 3f(-x) = 5x^2 - x \\ 2f(-x) - 3f(x) = 5x^2 + x \end{array} \right.$$

$$-5f(x) = 10x^2 + x$$

$$f(x) = -2x^2 - \frac{x}{5}$$

3

$$x=0 \rightarrow 2f(0) = 3m - 1$$

$$\Rightarrow 2m + 1 = 3m - 1$$

$$x=-2 \rightarrow 4f(0) = 2m + 1$$

$$f_m = 1$$

$$m = \frac{9}{4}$$

$$\rightarrow f(0) = \frac{2}{4}$$

4

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

$$a=3 \quad b=-6 \quad f(x)=3x-6 \rightarrow f(-1)=-9$$

5

$$D_f = (-\infty, 1]$$

$$D_g = (1-x)^3 \geq 0 \rightarrow 1-x \geq 0 \rightarrow x \leq 1 \rightarrow D_g = (-\infty, 1] \quad \left. \vphantom{D_g = (-\infty, 1]} \right\} f=g$$

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$$D_f = [0, +\infty)$$

$$D_g = [0, +\infty)$$

$$\sqrt{x^3} = \sqrt{x^2 x} = x\sqrt{x} \quad \left. \vphantom{\sqrt{x^3} = \sqrt{x^2 x} = x\sqrt{x}} \right\} f=g$$

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$$0 \leq \sqrt{x} - [\sqrt{x}] < 1 \rightarrow f(x)^* = 0 \rightarrow D_f = [0, +\infty)$$

$$g(x) = \sqrt{x - |x|} \quad \begin{cases} x \geq 0 \rightarrow |x| = x \rightarrow g(x)^* = 0 \\ x < 0 \rightarrow |x| = -x \rightarrow x - |x| < 0 \text{ تن} \end{cases}$$

$$D_g = [0, +\infty)$$

$$\Rightarrow f=g$$

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$$\text{الف) } \frac{x+1}{x-1} = 3$$

$$\text{ج) } 0 \times 1 = 0$$

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$$\text{ب) } \frac{3+3}{0} = \text{تن}$$

$$\text{الف) } g(x) = \left\{ (1, 1), (0, 4), \left(\frac{1}{2}, 5\right), \left(-\frac{1}{2}, 2\right), \left(\frac{4}{3}, -1\right) \right\}$$

$$\text{ب) } h(x) = \left\{ (-3, -1), (-2, 1), (0, 5), (2, 1), (3, -1) \right\}$$

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