

$[x] > 4 \rightarrow x > 5$ ۱۴
 $f(x) > x - 1$
 $2x - 1 > x - 1 \rightarrow 2x - x > -1 + 1 \rightarrow x > 0$
 $(1) \quad [x] \leq 4 \rightarrow x < 5$
 $f(x) = 4x + 3$
 $4x + 3 > x - 1 \rightarrow x > -\frac{4}{3}$ (۲) (۲)

$(x^2 + 4x + 1)^2 \neq 0 \rightarrow (2x + 1)^2 \neq 0 \rightarrow x \neq -\frac{1}{2} \rightarrow D_x = \mathbb{R} - \{-\frac{1}{2}\}$
 $(x^2 + 4x + 1)^2 = (2x + 1)^2$
 $\Rightarrow \frac{(x^2 + 4x + 1)^2}{(2x + 1)^2} = 1$
 $\Rightarrow \frac{(x^2 + 4x + 1)^2}{(2x + 1)^2} = 1$
 $\Rightarrow x = \frac{3}{2} (x \neq -\frac{1}{2})$ (۲) -۲

$a + b + c = -2 + 1 + 1 = 0$
 $(x-1)(x+1) = x^2 + ax + b$
 $x^2 + ax + b = (x-1)(x+1) = x^2 - 1$
 $\Rightarrow a = 0, b = -1$
 $c = 1, b = 1, a = -2$
 $\Rightarrow R - \{1, -1\} \subseteq g$
 $R - \{c\} \subseteq f$
 $a = -(c+1) = -c-1$ (۲) -۴

$f(x+1) = ((x+1)-3)^2((x+1)-1) = (x-2)^2 x = (x^2 - 4x + 4)x = x^3 - 4x^2 + 4x$
 $f(1-x) = ((1-x)-3)^2((1-x)-1) = (-x-2)^2(-x) = (x^2 + 4x + 4)(-x) = -x^3 - 4x^2 - 4x$
 $g(x) = -18x^2$ (۲)

سوالهای نه تئوری و دقیق بنویس

جوابشو رو

صفحه بعد...

$x = 1 \leftarrow 1 - 2x = -1$
 $f(-1) = 4\sqrt{1} = 4$
 $f(3) = \sqrt{-1} + 2 = -1 + 2 = 1 \Rightarrow f(-1) + f(3) = 4 + 1 = 5$ (۲)

$x + \sqrt{x} = 6$
 $\sqrt{x} = t \rightarrow t^2 + t - 6 = 0 \rightarrow (t+3)(t-2) = 0$
 $t = -3$
 $t = 2 \rightarrow \sqrt{x} = 2 \rightarrow x = 4$
 $f(4) = x^4 + 3x = 256 + 12 = 268$
 $f(4) = 256 + 12 = 268$ (۲) -۷

$(1-x) = -(x-1)$
 $f(1-x) = -f(x-1)$
 $f(x-1) + f(1-x) = f(x-1) + (-f(x-1)) = 0$ (۲) -۹

۳- برای تساوی دو تابع (۱) دامنه های برابر

(۲) ضابطه های برابر

$$n \neq \pm 1 \Rightarrow C = 2$$

$$n = \pm 1$$

مقدار تابع در $n = \pm 1$ باید در دو تابع f و g برابر باشند:

$$\left\{ \begin{array}{l} \rightarrow a = 2, 5, b = 0, 5 \rightarrow b + C = 2, 5 \end{array} \right.$$

$$f(n) = \begin{cases} \frac{(n-1)(n^2+3n+2)}{(n-1)(n+1)} = n+2 \\ \frac{an+2}{n+b} \end{cases}$$

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

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

۹- اشتراک دامنه f و g فقط $n=1$ است یعنی:

$$D_f = \left[\frac{a}{f}, +\infty \right) \quad D_g = (-\infty, \frac{b}{f}] \xrightarrow{\Delta} \{1\}$$

$$\frac{a}{f} = \frac{b}{f} = 1 \rightarrow a = \frac{f}{3} \quad b = \frac{f}{3}$$

$$2f(1) - g(1) = K \rightarrow 2K - 2 - 3K = K \rightarrow K = -1$$

$$2a - \frac{b}{f} = K = \textcircled{3}$$

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

$$\Rightarrow D_{f \times g} = [-1, v] \rightarrow m = v$$

$$D_g = [-1, +\infty)$$

$$(f-g)(3) = 2+n-2\sqrt{2} = 4\sqrt{2} \rightarrow n = 8\sqrt{2}-2$$

$$m+n = \boxed{8\sqrt{2}+5}$$

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