

این معادله بنیاد جواب داشته باشد و $\Delta < 0$ باید

$$\Rightarrow (m+1)^2 + Fm(m+1) < 0 \Rightarrow (m+1)(m+1+Fm) < 0 \Rightarrow (m+1)(\alpha m+1) < 0$$

$$\Rightarrow -1 < m < -\frac{1}{\alpha} \rightarrow \text{شامل صفر عدد صحیح می باشد.}$$

$$f\left(\frac{1}{F}\right) = -3 \Rightarrow g^{-1}(\alpha) = \frac{1}{F} \Rightarrow g\left(\frac{1}{F}\right) = \alpha \Rightarrow \alpha = -\frac{1}{F} \times \sqrt{\frac{1}{F}} = -\frac{1}{\lambda}$$

$$\frac{\beta}{\alpha} = \alpha \cdot \beta \Rightarrow \alpha \alpha^2 = 1 \Rightarrow \alpha = \pm \frac{1}{\alpha}$$

$$y = -\alpha x^2 + Fx + 1$$

ریشه اول $\left(\frac{-F}{-10}, 1, 1\right) \rightarrow$ رأس سهمی

$$\frac{-F}{\alpha} = \alpha + \beta \Rightarrow \frac{-F}{\alpha} = \frac{1}{\alpha} + \beta \Rightarrow \beta = -1 \times$$

$$\alpha = -\frac{1}{\alpha} \rightarrow \frac{-F}{-\alpha} = -\frac{1}{\alpha} + \beta \Rightarrow \beta = 1 \checkmark$$

$$-F < -\frac{1}{\mu-x} < 0 \Rightarrow 0 < \frac{1}{\mu-x} < F \rightarrow \left\{ \begin{array}{l} 0 < \frac{1}{\mu-x} \Rightarrow x < \mu \\ \frac{1}{\mu-x} < F \Rightarrow \frac{-11+Fx}{\mu-x} < 0 \Rightarrow x < \frac{11}{F} \text{ یا } x > \mu \end{array} \right.$$

$x < \frac{11}{F} \leftarrow$ شامل دو عدد طبیعی.

در بازه $\left[\frac{1}{F}, 0\right]$ آلیه اولی باشد. $x \geq 0 \Rightarrow x^2 - x \rightarrow$
 در بازه مدونه $(0, -\infty)$ معکوس می باشد. $x < 0 \Rightarrow -x^2 + x \rightarrow$

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$$x=0 \Rightarrow 1 + c \times 3^a = \frac{2}{3} \Rightarrow c \times 3^a = -\frac{1}{3}$$

$$x=1 \Rightarrow 1 + c \times 3^{a+b} = 0 \Rightarrow c \times 3^{a+b} = -1$$

$$\Rightarrow 3^b = 3 \Rightarrow b = 1$$

$$f(-1) = 1 + c \times 3^{a-1} = 1 + c \times 3^a \times \frac{1}{3} = 1 - \frac{1}{3} = \frac{2}{3}$$

۳ (۱۱۷)

$$\frac{3+p}{p} - \frac{\sqrt{3+1}}{p} = \frac{3}{p} - 1 = \frac{1}{p}$$

$x=3$ را در دستگاه تابع اول قرار دادیم و نقطه $(3, \frac{1}{3})$ به دست آمد

و بنابراین نقطه $(\frac{1}{3}, 3)$ باید در دستگاه تابع دوم صدق کند:

$$a \times \frac{1}{p} + a \sqrt{\frac{1}{p}} = 3 \Rightarrow \frac{2}{p} a = 3 \Rightarrow a = \frac{3p}{2}$$

۴ (۱۱۸)

$$\tan \alpha = -\frac{1\alpha}{p} = -\frac{3}{p}$$

$$\tan\left(\frac{\pi}{p} - \alpha\right) = \cot \alpha = -\frac{p}{3}$$

۴ (۱۱۹)

$$\frac{-p \sin(2p^\circ) - p \sin(2p^\circ)}{-\sin(2p^\circ) - \sin(2p^\circ)} = \frac{p}{p}$$

۲ (۱۲۰)

$$p \sin x \cdot \cos x - p \sin^2 x \cdot \cos x = 0 = p \sin x \cdot \cos x (1 - p \sin x) \Rightarrow \sin x = 0 \vee \frac{1}{p} \vee \cos x = 0$$

$$\Rightarrow x = 0 \vee \frac{\pi}{4} \vee \frac{3\pi}{4} \vee -\frac{\pi}{4} \vee \frac{\pi}{4}$$

$$\frac{p\pi}{|a|} = \pi \Rightarrow |a| = p \Rightarrow \frac{p\pi}{\frac{1}{|a|}} = p\pi.$$

. 3 (142)

$$\lim_{x \rightarrow 1^+} (f(x) - g(x)) = \infty \quad \text{و} \quad \lim_{x \rightarrow 1^+} (f(x) + g(x)) = 0 \Rightarrow \lim_{x \rightarrow 1^+} f(x) = \frac{0}{\infty}.$$

$$\Rightarrow \lim_{x \rightarrow 1} f(x) = \frac{0}{\infty}.$$

$$\lim_{x \rightarrow 1^-} (f(x) - g(x)) = \infty \quad \text{و} \quad \lim_{x \rightarrow 1^-} (f(x) + g(x)) = p \Rightarrow \lim_{x \rightarrow 1^-} f(x) = \frac{p}{\infty}.$$

. 5 (143)

$$a - p > 0 \Rightarrow a > p.$$

$$\lim_{x \rightarrow \frac{1}{p}} \left[\frac{x}{a} - x \right] = \left[\frac{\frac{1}{p}}{a} - \frac{1}{p} \right] = -1.$$

. 1 (144)

برای اینکه تابع در \mathbb{R} پیوسته باشد، نباید بهر آن در منطبقه آن وجود داشته باشد، بنابراین $b = 0$.

$$f(x) = -pa.$$

$$\frac{a}{f(b)} = \frac{a}{-pa} = -\frac{1}{p}.$$

. 2 (145)

$$y = \frac{x}{v} + \frac{b}{v}.$$

$$\frac{ax-1}{3x+1} = \frac{x+a}{v} \Rightarrow 3x^2 + 14x + a = vax - v$$

$$\Rightarrow 3x^2 + (14 - va)x + 14 = 0$$

$$\Delta = 0 \Rightarrow 252 + 49a^2 - 224a - 144 = 0$$

$$\Rightarrow 49a^2 - 224a + 112 = 0 \Rightarrow 5a^2 - 32a + 14 = 0$$

$$\Rightarrow (5a - 4)(a - 4) = 0 \Rightarrow a = \frac{4}{5} \quad \checkmark \quad \text{و} \quad 4 \quad \checkmark \quad (\text{رج اول})$$

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

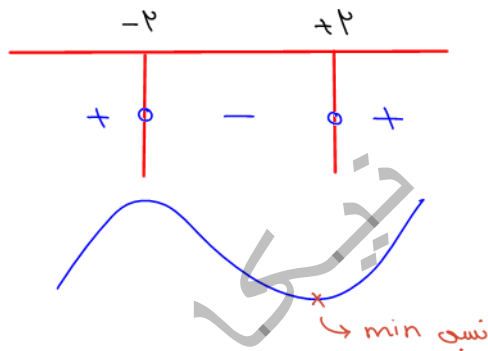
$$\Rightarrow 1 - (-1a+1) = 1a - 0 = -1 \Rightarrow a = -\frac{1}{p}$$

$$f(0) = 1$$

$$f'(x) = 3 \times p x (x^2+1)^2 \times \left(\frac{-x}{p} + 1\right) + (x^2+1)^3 \times \left(\frac{-1}{p}\right) \xrightarrow{x=1} 1p + (-F) = 1$$

$$y' = 3x^2 - 12 = 0 \Rightarrow x = \pm 2$$

$$y'' = 12x - 12 \Rightarrow y''(2) = 12$$



$$S = (a+b)(\sqrt[3]{F-a}) = pa \sqrt[3]{F-a} \xrightarrow{\text{مشتق}} p \sqrt[3]{F-a} - \frac{pa}{3 \sqrt[3]{(F-a)^2}} = 0$$

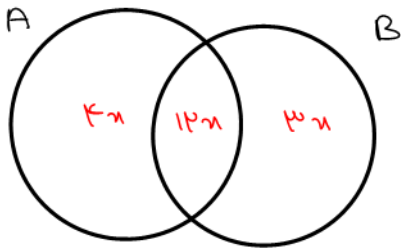
$$\sqrt[3]{F-a} = \sqrt[3]{F-b} \Rightarrow a = b \Rightarrow 3(F-a) = a \Rightarrow a = 3$$

$$1, 3, 9, 18, 27, 27, a, a, 27, 42, 2a + 1$$

$$\frac{4F+2a}{a} = 27 \Rightarrow a = 27$$

$$\frac{42+27}{2} = 34.5$$

$$4! \times 3! = 24 \times 6 = 144$$



$$19x = 57 \Rightarrow x = 3.$$

$$14x = 42.$$

. 1 (138)

. 2 (139)

$$2 + 2a = a + 5 \Rightarrow a = 3.$$

$$f(3) = 27 + 5 = 32.$$

. F (140)

$$y = \frac{4}{p}x + 3 \rightarrow \text{معادله شغای از دایره که در نقطه } (0, 3) \text{ بر خط معاس عمود است.}$$

$$\text{موردی (} \frac{-4}{p}, \frac{3}{p} \text{)} \Rightarrow \frac{-9}{p^2} = \frac{4}{p} \Rightarrow a = -\frac{4}{p}.$$