

نام و نام خانوادگی کلاس شماره تکلیف شماره پاسخنامه تشریحی ایم. جبار

الف) $n^2 - n = 2 \rightarrow n^2 - n - 2 = 0 \rightarrow (n-2)(n+1) = 0$ $\rightarrow \boxed{n=2}$ ✓
 $\rightarrow n=-1 \rightarrow (-1-1)(-1-2) \neq 0$
 $\boxed{m=2, n=2}$

$$c) (m_0 \psi)(\psi_0 \psi) \rightarrow \boxed{m=P} \rightarrow (-1)^n (1_0 \psi)(\psi_0 \psi) \text{ (a) } \boxed{1} (a + \psi_0 n)(\psi_0 \psi) \\ (1_0 \psi)(1_0 \psi) \rightarrow \boxed{n=P} \quad \boxed{a=-1} \checkmark$$

$\mu_{n-1} : n > 1$
 $n+a : n < \lim_{x \rightarrow \infty} x(-\log x)$
 $\downarrow$
 $\therefore 1+a \leq p \rightarrow a \leq 1$



بنازی $x < 1$ و $(-\infty, 2)$

$r_n - 1 \quad n \geq 1$ $\rightarrow$

$a n + \underline{a-1} \quad n \leq 0$

$\downarrow$

1) $\frac{a}{a} > 0$
 2) $a-1 < 2 \rightarrow a < 3 \} \rightarrow 0 < a < 3$
 عرفان (مبیا)

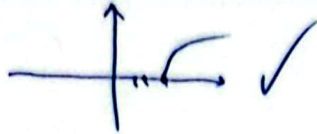
2) $y = n^{\frac{1}{n-1}}$

 $\xrightarrow{\text{substitution}}$
 $x = y^{\frac{1}{n-1}} \rightarrow y = n^{\frac{1}{n-1}} \rightarrow y = \sqrt[n-1]{n}$

ایک جہتی فیڈ
 $y = m^2 - 4m + 2$
 ۲ = ۲۰
 ۲ سے ۲۰ تک

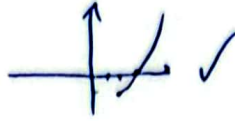
[illegible]

$$y = \sqrt{x-1}$$



$$x = \sqrt{y-1} \rightarrow x^2 = y-1 \rightarrow y = x^2+1$$

$$y = x^2 + 1, x \in [1, +\infty)$$



$$y = (x-1)^2 - 1 \rightarrow x = (y+1)^2 - 1 \rightarrow x+1 = (y+1)^2 \rightarrow \pm\sqrt{x+1}+1 = y \xrightarrow{\text{منه}} y = \sqrt{x+1}+1$$

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

$$\text{لذلك } f^{-1}(y) = \lim_{b \rightarrow \infty} \left(\frac{y}{b} + \sqrt{\frac{y}{b}} \right) \quad a=1, b=\frac{1}{b}, c=\frac{1}{b} \rightarrow a+pb+ec = 1$$

$$\frac{x_1^2}{x_1-1} = \frac{x_2^2}{x_2-1} \rightarrow x_1^2 x_2 - x_2^2 x_1 = x_1^2 x_2 - x_2^2 x_1 \Rightarrow x_1^2 = x_2^2$$

$$\Rightarrow x_1 = \pm x_2$$

$$x_1 = x_2$$

$$y = \frac{x}{\sqrt{x^2-1}} \rightarrow x = \frac{y}{y^2-1} \rightarrow x(y^2-1) = y \rightarrow xy^2 - x = y \rightarrow xy^2 - y = x \rightarrow y(y^2-1) = x \rightarrow y = \frac{x}{y^2-1}$$

$$f^{-1}(x) = \frac{x}{1+x} \rightarrow y = \frac{x}{1+x} \rightarrow x = \frac{y}{1+y} \rightarrow x + xy = y \rightarrow y - xy = x$$

$$f\left(\frac{y}{1+y}\right) = \frac{\frac{y}{1+y}}{1+\frac{y}{1+y}} = \frac{y}{1+y+y} = \frac{y}{1+2y} \leftarrow y = \frac{x}{1-x}$$

$$y = \sqrt{x} - 1 \rightarrow \sqrt{x} = y+1 \rightarrow x = (y+1)^2 \rightarrow y = \sqrt{x} - 1 \rightarrow y+1 = \sqrt{x} \rightarrow y = \sqrt{x} - 1$$

$$\frac{y}{\sqrt{x}} - \frac{1}{\sqrt{x}} = \frac{y-1}{\sqrt{x}}$$

$$f^{-1}(x) = \sqrt{x}-1 \rightarrow y = \sqrt{x}-1 \rightarrow x = (\sqrt{y}+1)^2 \rightarrow x^2 = y+1 \rightarrow y = x^2-1$$

$$g(x) = x^2 + 1 + \sqrt{x^2+1} \rightarrow t^2 + t = 1 \rightarrow t^2 + t - 1 = 0 \rightarrow t = \frac{-1 \pm \sqrt{5}}{2}$$

$$\uparrow g^{-1}(1) = \frac{-1 + \sqrt{5}}{2} \quad t = \sqrt{x}$$

$$g(x) = 1 \leftarrow g(x) = g^{-1}(x)$$