

Subject

Year. Mont. Day. () ۲۷ دوم دختر - تلف - م

الف) $(9, x+2y), (2x-y, -4)$ ①

$$\begin{aligned} \rightarrow 2x-y &= 9 & \rightarrow 4x-2y &= 18 & \rightarrow x+2y &= -4 & \rightarrow 2+2y &= -4 \\ \rightarrow x+2y &= -4 & + x+2y &= -4 & \rightarrow 2y &= -4 & \rightarrow y &= -2 \\ \rightarrow 2x &= 14 & \rightarrow x &= 7 \end{aligned}$$

$$\rightarrow \frac{x}{y} = \frac{-1}{2}$$

ب) $(-1, -2), (\frac{1}{x} - \frac{1}{y}, \frac{\Delta}{x} - \frac{V}{y})$

$$\rightarrow \frac{1}{x} - \frac{1}{y} = -1 \rightarrow \frac{y-x}{xy} = -1 \rightarrow y-x = -xy$$

$$\rightarrow \frac{\Delta}{x} - \frac{V}{y} = -2 \rightarrow \frac{\Delta y - Vx}{xy} = -2 \rightarrow \Delta y - Vx = -2xy$$

$$\begin{aligned} -\Delta y + \Delta x &= \Delta xy \\ \Delta y - Vx &= -2xy \end{aligned}$$

$$\begin{aligned} y-x &= -xy \\ \hookrightarrow -1-x &= x \rightarrow -1 = 2x \end{aligned}$$

$$-2x = 2xy \rightarrow -2 = 2y \rightarrow y = -1 \quad \hookrightarrow x = -\frac{1}{2}$$

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

$f = \{ (a, 2a), (1, a+1), (1, -2), (2, b) \}$ ②

$$f(a) + 2f(2) = 3f(1) \rightarrow 2a + 2b = 3a + 3$$

$$(1, a+1), (1, -2) \rightarrow a+1 = -2 \rightarrow a = -3$$

$$2a + 2b = 3a + 3 \rightarrow 2b = a + 3 = -3 + 3 = 0 \rightarrow 2b = 0 \rightarrow b = 0$$

$f = \{ (-1, m^2 - 3m), (3, \Delta), (-1, -2), (m+1, 4), (2, \Delta), (m^2+2, \Delta m+1) \}$

$$m^2 - 3m = -2 \rightarrow m^2 - 3m + 2 = 0 \rightarrow (m-2)(m-1) = 0$$
 ③

$$\rightarrow m=2 \rightarrow (3, \Delta), (m+1, 4) \rightarrow (3, \Delta), (3, 4) \times$$

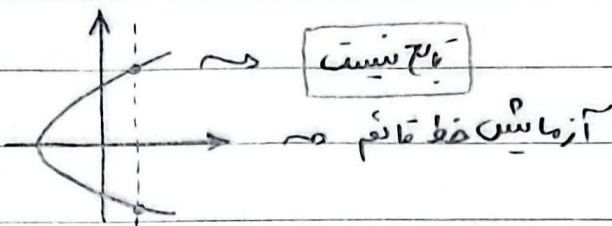
$$\rightarrow m=1 \rightarrow (m+1, 4), (2, \Delta) \rightarrow (2, 4), (2, \Delta) \times$$

مزاى هج مقدار m

Subject

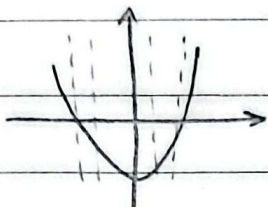
Year . Mont . Day . ()

(الف)



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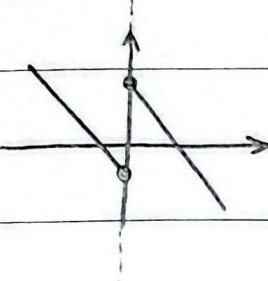
(ب)



آزمایش خط قائم: باید هر خط قائم
تقاطع یک نقطه تابع را قطع کند که در
اینصورت تابع است و اگر در بیش از یک
نقطه قطع کند تابع نیست.

تابع هست

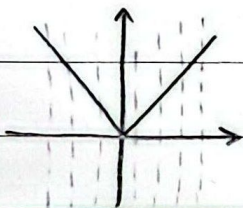
(ج)



تابع نیست

زیرا به ازای یک x ، دو y دارد، درایی دوم از
درایی اول سرری نمی کند.

(د)



تابع هست

(الف) $y = -\sqrt{x+1} \rightsquigarrow y_1 = -\sqrt{x+1} \rightsquigarrow y_1 = y_2$ تابع هست (5)

$\rightsquigarrow y_2 = -\sqrt{x+1}$

(ب) $x = \frac{y}{\sqrt{1-y^2}}$ تابع هست \rightsquigarrow معادلاتی که y به زیر رادیکال می رود
معمولاً تابع است.

$|y| = x \rightsquigarrow 1 = |y| \rightsquigarrow y = 1$ تابع نیست (6)

$\rightsquigarrow y = -1$

$y^3 \pm y = \square$ تابع هست $\rightsquigarrow y^3 + y = -y^3 - x^3 - x$ تابع هست

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$$f(x) = \frac{x^p + px + a}{x^p + px + v} \rightsquigarrow f(\sqrt{p}-p) = ? \quad \textcircled{v}$$

$$f(x) = \frac{x^p + px + p + 1}{x^p + px + p + v} = \frac{(x+p)^p + 1}{(x+p)^p + v} = \frac{(\sqrt{p}-p+p)^p + 1}{(\sqrt{p}-p+p)^p + v}$$

$$\frac{(\sqrt{p})^p + 1}{(\sqrt{p})^p + v} = \frac{p+1}{p+v} = \frac{f}{g} = \boxed{\frac{p}{p}}$$

$$f(x) = x^p + ax + b \rightsquigarrow y - px + a = 0 \rightsquigarrow (-1, -f) \quad \textcircled{\Delta}$$

$$f(-1) = -1 - a + b = -f \rightsquigarrow b - a = -f + 1 = -p$$

$$-f - p(-1) + a = 0 \rightsquigarrow -f + p + a = 0 \rightsquigarrow a = 1$$

$$b - a = -p \rightsquigarrow b - (1) = -p \rightsquigarrow b - 1 = -p \rightsquigarrow b = -p$$

$$\rightsquigarrow f(x) = x^p + x - p, \quad y = px - 1$$

$$x^p + x - p = px - 1 \rightsquigarrow x^p - px - 1 = 0$$

$$x^p + x^p - x^p - px - 1 = 0 \rightsquigarrow x^p + x^p - (x^p + px + 1) = 0$$

$$x^p(x+1) - (x+1)^p = 0 \rightsquigarrow (x+1)(x^p - x - 1) = 0$$

$$(x+1)(x^p - x - 1) = 0$$

$$\rightsquigarrow \frac{-b}{a} = \frac{-(-1)}{1} = \frac{1}{1} = \boxed{1}$$

$$f = \{(p, a+b), (1, pa), (-1, a-pb+1)\} \quad \textcircled{9}$$

$$a+b = a-pb+1 \rightsquigarrow pb = 1 \rightsquigarrow b = \frac{1}{p}$$

$$a+b = pa \rightsquigarrow b = a = \frac{1}{p} \rightsquigarrow a = \frac{1}{p} \rightsquigarrow \boxed{a = \frac{1}{p}}$$

$$f(x) = \frac{fx^p - ax + c + 1}{bx + p} = x \rightsquigarrow fx^p - ax + c + 1 = bx^p + px \quad \textcircled{10}$$

$$\rightsquigarrow b = f, \quad -a = p \rightsquigarrow a = -p, \quad c + 1 = 0 \rightsquigarrow c = -1$$

$$a + b + c = -p + f - 1 = -f + f = \boxed{0}$$

K.P.C