

حل المسألة 11

11

المسألة 11: $(19, x+2y), (2x-y, -2)$

$$-2 = 2y + x \quad a = 2x - y \rightarrow 2x - 2y = 18 \Rightarrow \begin{cases} x + 2y = -2 \\ 2x - 2y = 18 \end{cases} \Rightarrow \begin{cases} x = 2 \\ y = -2 \end{cases} \quad \boxed{\frac{x}{y} = \frac{2}{-2}}$$

~~المسألة 11: $(-1, -3), (\frac{1}{x} - \frac{1}{y}), (\frac{1}{x} - \frac{1}{y}), (\frac{1}{x} - \frac{1}{y})$~~

المسألة 11: $(-1, -3), (\frac{1}{x} - \frac{1}{y}), (\frac{1}{x} - \frac{1}{y})$

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

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

$$(1) \cdot (2) \rightarrow wy - vx = wy - vx$$

$$\begin{aligned} 2y &= 2x \\ y &= x \end{aligned}$$

$$\frac{x}{y} = \frac{x}{x} = \boxed{\frac{1}{1}}$$

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$$f(a) = 2a = -4$$

$$f(a) + 2f(2) = 2f(1)$$

$$f(2) = b$$

$$-4 + 2b = -4$$

$$\Rightarrow \boxed{b=0}$$

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

المسألة 11: $f\{(-1, m^2 - 3m), (2, 1), (-1, -2), (m+1, 4), (2, 2), (m^2+2, 2m+1)\}$

$$-2 = m^2 - 3m$$

$$m^2 - 3m + 2 = 0$$

$$(m-2)(m-1) = 0 \rightarrow m=2 \rightarrow (2, 2) \checkmark$$

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

$$\boxed{m=2}$$

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الف تابع نیست

ب تابع است

ج تابع نیست

د تابع است

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الف

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

$$y_1 = -\sqrt{x+1}$$

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

$y_1 = y_2$

~~(x, y_1)~~

~~(x, y_2)~~

~~(x, y)~~

ب

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

$$(x, y_1) \rightarrow \frac{y_1}{\sqrt{1-y_1^2}} = x$$

$$(x, y_2) \rightarrow \frac{y_2}{\sqrt{1-y_2^2}} = x$$

$$\Rightarrow \frac{y_1}{\sqrt{1-y_1^2}} = \frac{y_2}{\sqrt{1-y_2^2}}$$

$$\Rightarrow \frac{y_1^2}{1-y_1^2} = \frac{y_2^2}{1-y_2^2}$$

حقیقا با هم برابر تابع است و اکثر عدد دو یکبار داریم
بررسی شود.

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تابع نیست $x = t^2$ $y = t^3$ (t, x) (t, y) (x, y) (t, x, y)

ب

v)

$$f(x) = \frac{x^r + \varepsilon x + a}{x^r + \varepsilon x + r} = \frac{x + \varepsilon x + \varepsilon + 1}{x + \varepsilon x + \varepsilon + r} = \frac{(x+r)^r + 1}{(x+r)^r + r}$$

$$e \quad f(\sqrt{r} - r) = \frac{(\sqrt{r})^r + 1}{(\sqrt{r})^r + r} = \frac{\varepsilon}{r} = \frac{r}{r}$$

~~AB~~

~~$(-1, \varepsilon) \frac{b^r}{r} + r - 1 + a = 0$~~
 ~~$a = -11$~~

~~$(-1, \varepsilon) \frac{b^r}{r} - \varepsilon = -1 \quad a + b = -1 + \dots + r + b$~~
 ~~$\Rightarrow b = -1r$~~

~~$y = rx + 1$~~
 ~~$y = x^r = rx - 1 \quad \varepsilon$~~
 ~~$y = y$~~
 ~~$rx + 1 = x^r - 1 \quad x - \varepsilon$~~
 ~~$x^r - \varepsilon x + \dots = 0$~~

? ~~...~~

q1 ~~...~~ $a + b = ra = a - rb + 1$

$$b = a$$

$$ra = -a + 1$$

$$ra = 1$$

$$a = \frac{1}{r}$$

l.o.1 $f(x) = \frac{\varepsilon x^r - ax + c + 1}{bx + r}$

$$f(1) = 1 = \frac{\varepsilon - a + c + 1}{b + r} \Rightarrow \frac{a + c - a}{b + r} = 1 \rightarrow r + c = b + a$$

$$f(r) = r = \frac{\varepsilon r^r - ra + c + 1}{rb + r} \Rightarrow \varepsilon b + r = 1r - ra + c + 1$$

$$\varepsilon b + ra - a = c + r$$

$$f(x) = x^3$$

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

$$c + x = 3x^2 - 2a + c + 1 - x^2 - x$$

$$b + a = 3a + 2b - 2x$$

$$\begin{aligned} 2a + 2b &= 2x \\ a + b &= x \end{aligned}$$

$$\begin{aligned} \varepsilon b + 2a - a &= b + a \\ 2b + a &= a \end{aligned}$$

$$\begin{cases} 2b + a = a \\ a + b = x \end{cases} \Rightarrow \begin{aligned} 2b &= -\varepsilon \\ b &= -\frac{\varepsilon}{2} \\ a &= x - b \\ x &= c + x \Rightarrow c = 1 \end{aligned}$$

$$a + b + c = 1 + 1 - \frac{\varepsilon}{2} = 2 - \frac{\varepsilon}{2}$$

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$$y = 3x - a \xrightarrow{(-1, -\varepsilon)} -\varepsilon = -3a \rightarrow a = \frac{\varepsilon}{3}$$

$$y = x^2 + x + b \xrightarrow{(-1, -\varepsilon)} -\varepsilon = -1 + b \rightarrow b = -\varepsilon + 1$$

$$\begin{cases} y = 3x - 1 \\ y = x^2 + x - 2 \end{cases} \rightarrow y = y$$

$$3x - 1 = x^2 + x - 2$$

$$x^2 - 2x - 1 = 0$$

توان های زوج برابر توان
توان های برابر یک ریخته

$$\begin{array}{r|l} x^2 - 2x - 1 & x + 1 \\ -x^2 - x^2 & x^2 - x - 1 \\ \hline -x^2 - 2x - 1 & \\ +x^2 + x & \\ \hline -x - 1 & \\ +x + 1 & \\ \hline 0 & \end{array}$$

~~$$\begin{array}{r} x^2 - 2x - 1 \\ -x^2 - x^2 \\ \hline -x^2 - 2x - 1 \\ +x^2 + x \\ \hline -x - 1 \\ +x + 1 \\ \hline 0 \end{array}$$~~

$$(x + 1) / (x^2 - x - 1) = 0$$

حیوه ریشه و بسامی حیوه طول تقاط

$$\frac{1}{1} = \frac{-b}{a} =$$