

19,2

معمولاً در مسائل این نوع - ابتدا باید به دنبال یک تغییر متغیر مناسب بود

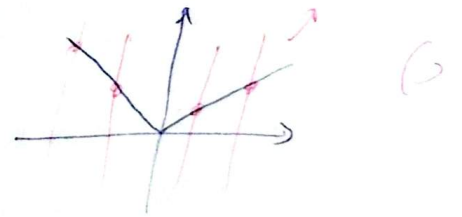
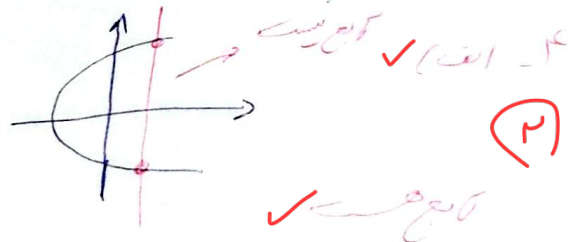
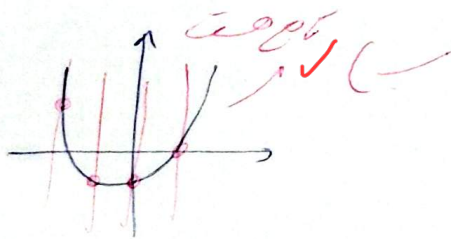
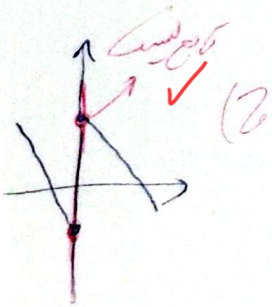
Call)  $\begin{cases} cx - y = 9 \xrightarrow{\times 2} 2cx - 2y = 18 \\ x + 2y = -4 \end{cases} \xrightarrow{+} 2cx - 2y = 18 \xrightarrow{+} 2cx - 2y = 18 \Rightarrow y = -c \Rightarrow \frac{x}{y} = \frac{-1}{c} \checkmark$  (2)

1)  $\begin{cases} \frac{1}{x} - \frac{1}{y} = -1 \Rightarrow y - x = -xy \xrightarrow{\times (-1)} -dy + dx = cxy \\ \frac{dx}{x} - \frac{dy}{y} = -c \Rightarrow dy - vx = cxy \rightarrow \frac{dy - vx}{y} = cxy \end{cases}$   
 $2y - cx = 0 \Rightarrow y = \frac{cx}{2} \Rightarrow \frac{x}{y} = \frac{x}{\frac{cx}{2}} = \frac{2}{c} \checkmark$

$ax + b = c \Rightarrow a = \frac{c-b}{x}$  (2)

$f(ax) = 2f(x) = 2f(1) \Rightarrow 2ax + 2b = 2a + 2c \Rightarrow 2b = 2a + 2c \Rightarrow 2b = 2a + 2c \Rightarrow b = a + c \checkmark$

$m^2 - cm = -2 \Rightarrow m^2 - cm + 2 = 0 \rightarrow \begin{cases} m=1 \text{ (1, 2) } \times \\ m=2 \end{cases}$  جمع می‌کنیم (2)



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

1)  $x = \frac{y}{\sqrt{1-y^2}} \rightarrow x_1 = x_2$

$\Rightarrow \frac{y_1}{\sqrt{1-y_1^2}} = \frac{y_2}{\sqrt{1-y_2^2}} \xrightarrow{\text{cross}} \frac{y_1^2}{1-y_1^2} = \frac{y_2^2}{1-y_2^2} \xrightarrow{\text{cross}} y_1^2(1-y_2^2) = y_2^2(1-y_1^2)$

$\Rightarrow y_1 = y_2$

$\Rightarrow y_1 = y_2$   $\checkmark$

ad)  $|y| = x \xrightarrow{\text{mit } |y| = 1} |y| \leq 1 \rightarrow x \leq 1 \checkmark$

(r) - 4

$(y+1)^x = -(x^x + x) \rightarrow x_1^x + x_1 = x_1^x + x_1$

$\Rightarrow (y_1, 0)^x = (y_1, 1)^x \Rightarrow y_1 + 1 = y_1 + 1 \Rightarrow y_1 = y_1 \checkmark$

$f(\sqrt{x-1}) = \frac{(x+1)^x + 1}{(x+1)^x + x} = \frac{(\sqrt{x-1}+1)^x + 1}{(\sqrt{x-1}+1)^x + x} = \frac{x}{x} = 1 \checkmark$

(r) - 4

$y = cx - a \Rightarrow -x = -x - a \Rightarrow a = 1$

(r) - 4

$y = x^x + x + b \Rightarrow -x = -1 - 1 + b \Rightarrow b = 2$

$cx - 1 = x^x + x - 1 \Rightarrow x^x - (x - 1) = 0$

$x^x - (x - 1)$	$\begin{array}{r} x^x - (x - 1) \quad   \quad 2x - 1 \\ -x^x - x^x \\ \hline -x^x - 2x \\ + x^x + x \\ \hline -x - 1 \\ + x + 1 \\ \hline 0 \end{array}$
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$\Rightarrow (x+1)(x^x - x - 1) = 0 \Rightarrow \frac{-b}{a} = \frac{+1}{1} = 1 \checkmark$

$a + b = 2a \Rightarrow b = a$

(r) - 4

$a - (a+1) = 2a \Rightarrow -a + 1 = 2a \Rightarrow 1 = 3a \Rightarrow a = \frac{1}{3} \checkmark$

Wird mit dem Ergebnis übereinstimmend

$f(x) = \frac{fx^2 - ax + c}{bx + c} = x \Rightarrow fx^2 - ax + c = bx^2 + cx \Rightarrow b = f$

$\Rightarrow a = -c$

$\Rightarrow c = -1$

$\Rightarrow a + b + c = 0 \checkmark$