

ب) $|y| + (0 \times y) = 0^2 + 1$

تابع نیست

چون بازای y بین x

مقدار اولی

$|y| = 1$

$y = \pm 1$

ج) $y_1^3 = y_2^3 - 1 - x_1^3$

$y_2^3 = y_2^3 - 1 - x_2^3$

$x_1 = x_2$

$y_1^3 = y_2^3$

$y_1 = y_2$

برای هر x بین y داریم $y_1 = y_2$ است

$\sqrt[3]{y_1 + 1} + \sqrt[3]{x_1} = 2$

$\sqrt[3]{y_2 + 1} + \sqrt[3]{x_2} = 2$

$x_1 = x_2$

$\sqrt[3]{y_1} = \sqrt[3]{y_2}$

$y_1 = y_2$

د) (ج) ✓

تابع است چون $y_1 = y_2$ پس y_1 و y_2 هم

تعريف نمره ۲) $\cot 180 = \frac{1}{0}$

$$1) \tan \frac{\pi}{2} = \frac{\sin \frac{\pi}{2}}{\cos \frac{\pi}{2}} = \frac{\frac{\sqrt{2}}{2}}{\frac{1}{2}} = \sqrt{2}$$

$$2) \cot + \frac{\sqrt{2}}{5} = \frac{\cos}{\sin} = \frac{\frac{1}{2}}{\frac{\sqrt{2}}{2}} = \sqrt{2}$$

$$2) \tan 225 = \frac{1}{\sqrt{2}} + \frac{1}{\sqrt{2}} = \frac{2}{\sqrt{2}} = \sqrt{2}$$

② ✓

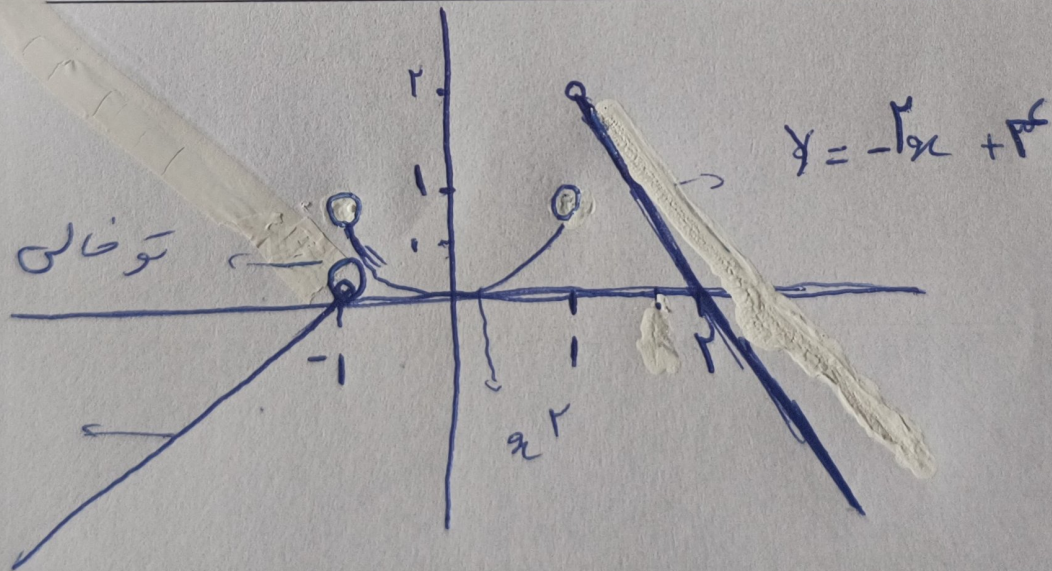
$$\sin a = \frac{1}{r} \rightarrow a = \frac{\pi}{4}, \text{ و } \frac{3\pi}{4}$$

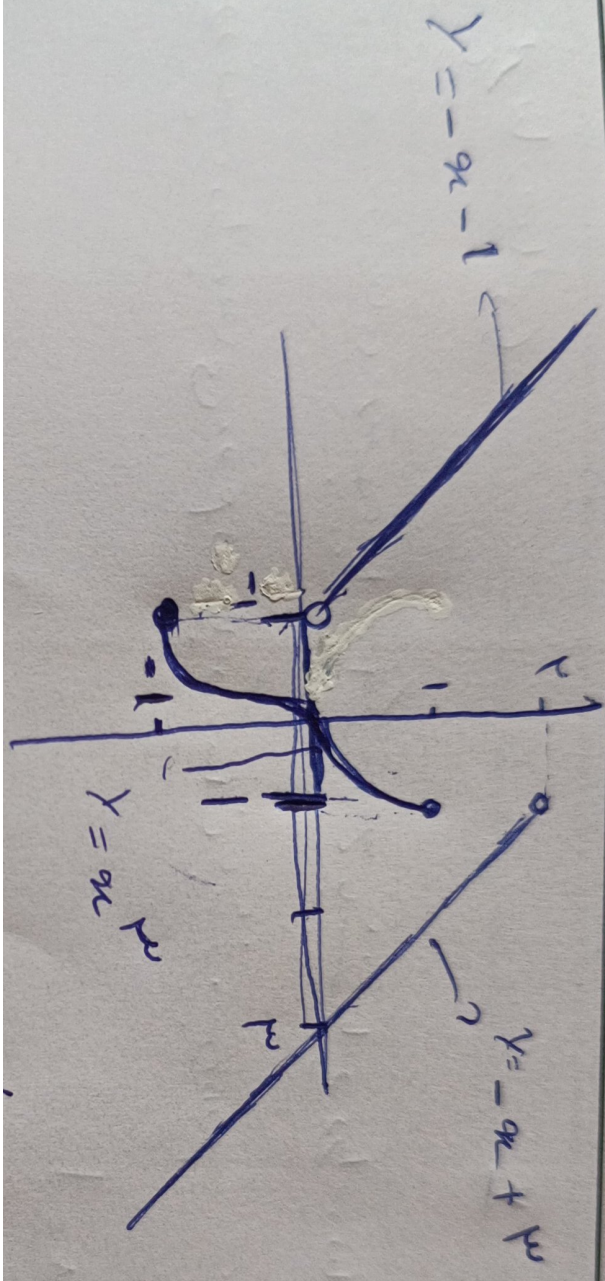
$$\cos a = \frac{\sqrt{2}}{r} \rightarrow a = \frac{\pi}{4}, \frac{7\pi}{4}$$

Ⓟ ✓

Q ✓

$$x + 1$$

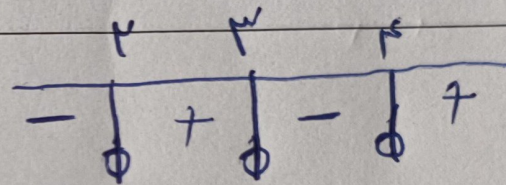




②

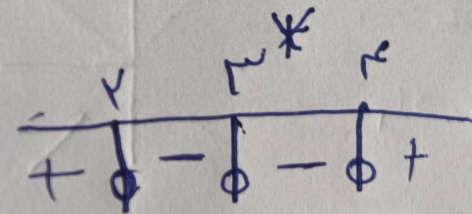
$$1) \quad Y = (x - 2) (x - 3) (x - 4)$$

$\downarrow$ $\downarrow$ $\downarrow$
 $x = 2$ $x = 3$ $x = 4$



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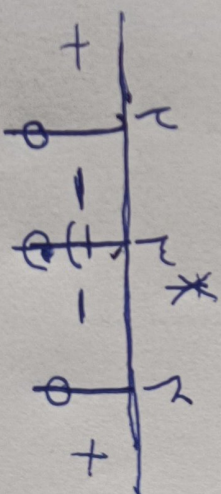
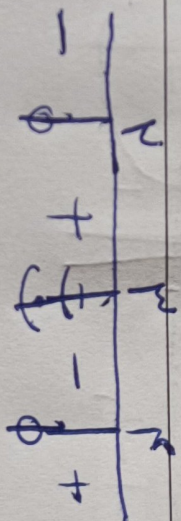


② ✓

$$x \neq y = \frac{(a_n - y) (a_n - c)}{(a_n - y) - a_n = c}$$

$$x \neq y = \frac{(a_n - y) (a_n - c)}{(a_n - y) (a_n - y)}$$

② ✓



$$X = \frac{(a-1) \left(\begin{matrix} 1 \\ a+r \end{matrix} \right)}{a-r} \quad \left\{ \begin{matrix} a=1 \\ a=r \\ a=1 \end{matrix} \right.$$

$$+ \frac{-1}{a-1} + \frac{1}{a-1} + \dots$$

$$Y = \frac{(a-1) \left(\begin{matrix} 1 \\ a-r \end{matrix} \right)}{(a-1)(a-r)}$$

$$\left\{ \begin{matrix} a=1 \\ a=r \\ a=1 \end{matrix} \right.$$

~~$$\frac{1}{a-1} + \frac{1}{a-1} + \dots$$~~

$$+ \frac{1}{a-1} + \frac{1}{a-1} + \dots$$

$$1) Y = \frac{q^Y (q^Y - 1)}{q^Y + q + Y} = \frac{q^Y (q - 1)(q + 1)}{q^Y + q + Y}$$

$$\begin{cases} q = 0 \\ q = 0 \\ q = 1 \\ q = -1 \end{cases} \quad \begin{array}{c} -1 \\ 0 \\ -\phi \\ -\phi \\ + \end{array}$$

$$\Delta = 1^Y - 1^Y = -Y \quad \text{منفی/مثبت ندارد}$$

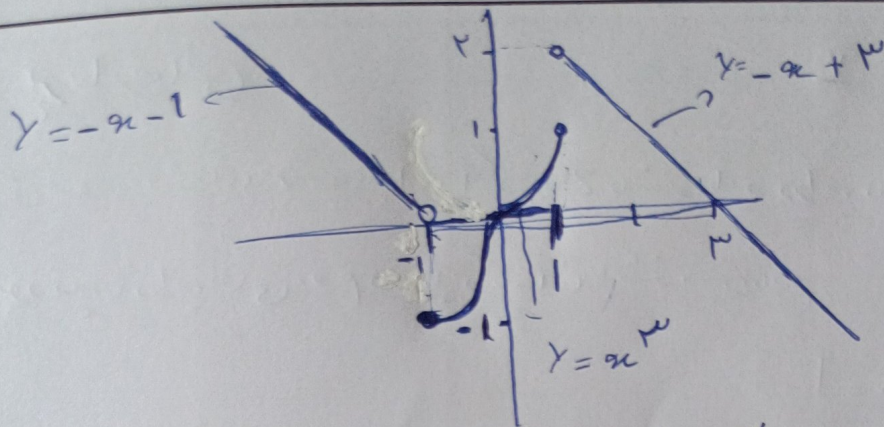
منفی/مثبت ندارد

2

✓

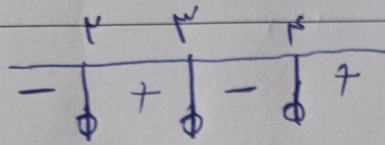
$$Y = \frac{q^Y + Y^2 q + Y^3}{q^Y + Y^2 q + Y^3} = \frac{q^Y - 1^Y}{q^Y + Y^2 q + Y^3} = \frac{q^Y - 1^Y}{q^Y + Y^2 q + Y^3}$$

$$\begin{array}{c} q \\ -\infty \\ 0 \\ +\infty \end{array} \quad \begin{array}{c} + \\ + \\ + \end{array}$$



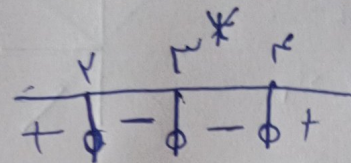
الف) $y = (x-2)(x-3)(x-4)$

$\downarrow$ $\downarrow$ $\downarrow$
 $x=2$ $x=3$ $x=4$



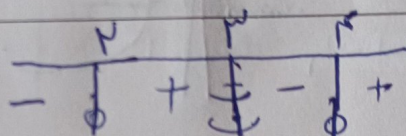
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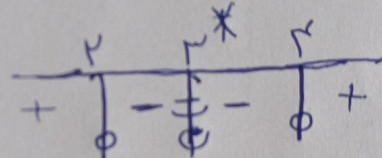


الف) $y = \frac{(x-2)(x-4)}{(x-3)} \rightarrow x=3$

$\downarrow$
 $x=3$

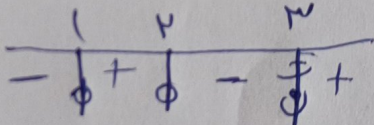


ب) $y = \frac{(x-2)(x-4)}{(x-3)(x-2)}$



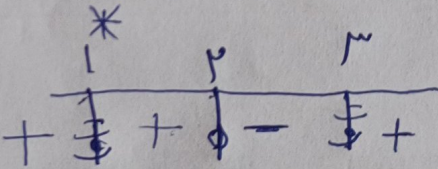
ج) $y = \frac{(x-1)(x-2)}{x-3}$

$\begin{cases} x=1 \\ x=2 \\ x=3 \end{cases}$

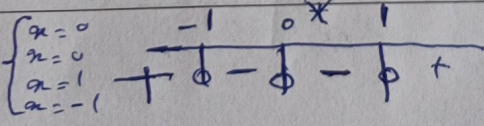


د) $y = \frac{(x-1)(x-2)}{(x-1)(x-3)}$

$\begin{cases} x=1 \\ x=2 \\ x=1 \\ x=3 \end{cases}$



الف) $y = \frac{x^2(x^2-1)}{x^2+x+2} = \frac{x^2(x-1)(x+1)}{x^2+x+2}$



$\Delta = 1^2 - 4 \times 2 = -7 < 0$ منفی / مثبت

ب) $y = \frac{x^2+3x+2}{x^2+2x+3} = \frac{(x+1)(x+2)}{x^2+2x+3}$

$\Delta = 2^2 - 4 \times 3 = -8 < 0$ منفی / مثبت

