

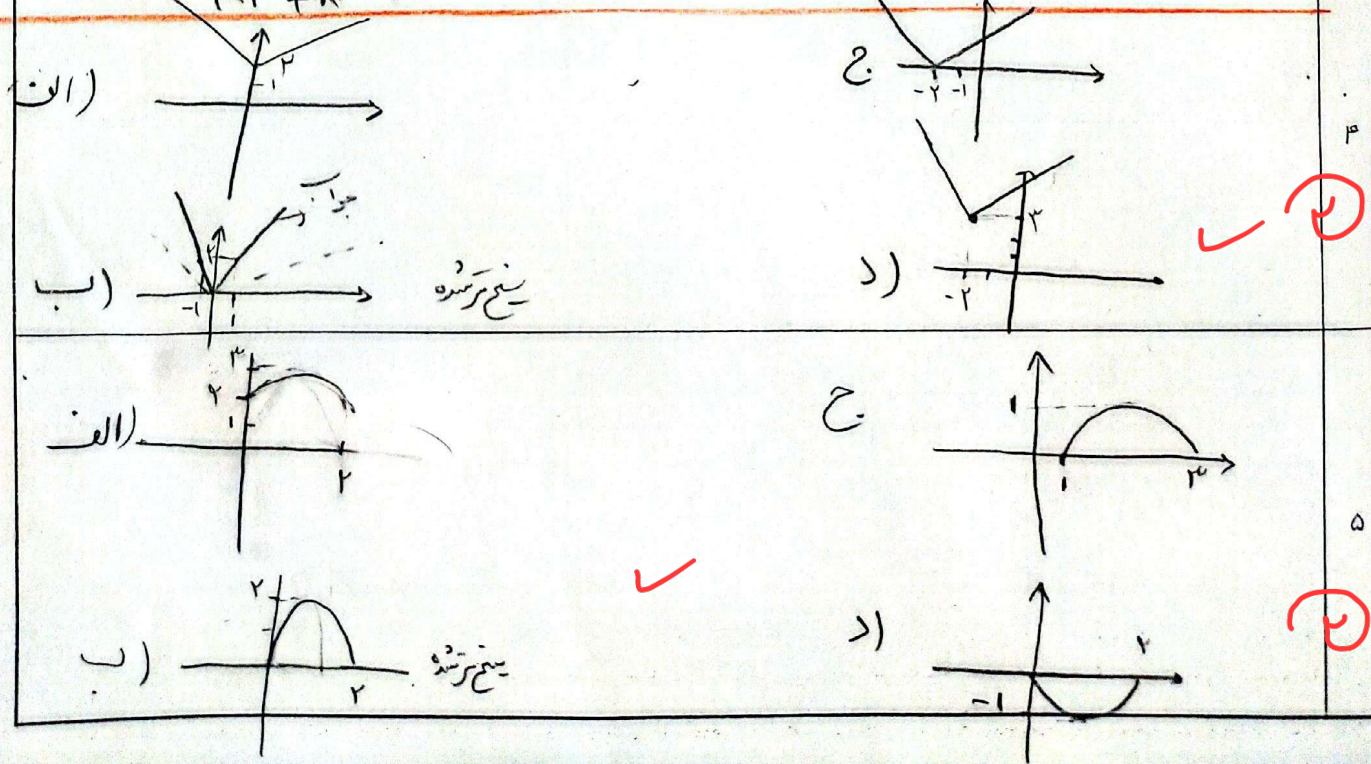
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الف)  $y^3 - m = 2m^2 \rightarrow y^3 = 2m^2 + m \rightarrow y^3 = 2m^2 + m$   $\Rightarrow y_1^3 = y_2^3 \Rightarrow y_1 = y_2$   
 ب)  $|y| + m^2 = m + 1$   $\xrightarrow{\text{مثال نقض}} m=1 \Rightarrow |y| + 1 = 2 \Rightarrow y = \pm 1$   $\Rightarrow$  تبع نیست

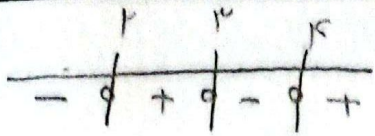
ج)  $\sqrt{x-4} + |y-2| = 0 \xrightarrow{\text{مثال نقض}} (4, 2) \Rightarrow$  تبع است  
 د)  $x = \cos y \xrightarrow{\text{مثال نقض}} x=0 \rightarrow y = 90, 270 \Rightarrow$  تبع نیست

الف)  $y = \frac{x+4}{x^2-4m}$   $x^2-4m \neq 0$   $x(x-2) \neq 0$   $D_f = \mathbb{R} - \{0, 2\}$   
 ب)  $y = \frac{x+4}{x^2-7m+14}$   $x^2-7m+14 \neq 0$   $D_f = \mathbb{R}$   
 ج)  $y = \frac{x+4}{x^2+m+4}$   $x^2+m+4 \neq 0$   $D_f = \mathbb{R}$

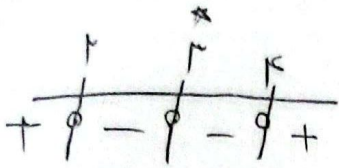
الف)  $y = \sqrt{4-x} + \sqrt{x-2}$   $4-x \geq 0 \Rightarrow x \leq 4$   $x-2 \geq 0 \Rightarrow x \geq 2$   $\Rightarrow x \in [2, 4]$   $P_f = [2, 4]$   
 ب)  $y = \frac{x^2+1}{x^2+1}$   $x^2+1 \neq 0$   $\Rightarrow D_f = \mathbb{R}$   
 ج)  $y = \frac{\sqrt{x-2}}{x-4}$   $x-2 \geq 0 \Rightarrow x \geq 2$   $x-4 \neq 0 \Rightarrow x \neq 4$   $\Rightarrow P_f = [2, +\infty) - \{4\}$   
 د)  $y = \frac{x^2+2}{|x|+x^2}$   $|x|+x^2 \neq 0$   $\Rightarrow P_f = \mathbb{R}$



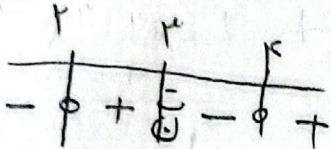
الف)



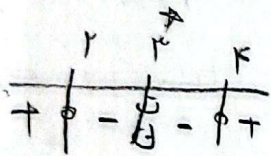
ب)



الف)



ب)

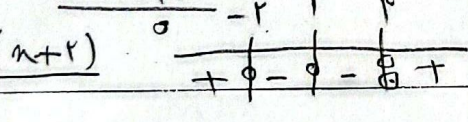


الف)

$$\frac{x^3 - 3x^2 + 2x}{x^2 - x^2} \cdot \frac{x-1}{x^2 + x - 2}$$

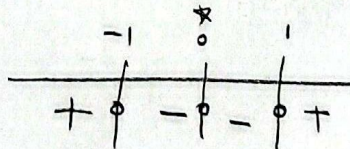
$$\frac{(x-1)(x-2)}{(x-2)(x-1)}$$

ب)



الف)

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

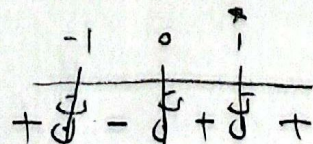


ب)

$$\frac{x^2 + 3x + 2}{x^2 + 2x + 2} \rightarrow 9 - 14 = -5 \Rightarrow \Delta < 0 \Rightarrow \text{رہنہ برابر}$$

الف)

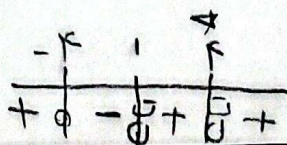
$$\sqrt{\frac{(x-1)(x^2+1+x)}{x(x-1)(x+1)}}$$



$$D_f = (-\infty, -1) \cup (0, 1) \cup (1, +\infty)$$

ب)

$$\sqrt{\frac{(x-2)(x+2)}{(x-1)(x-2)}}$$



$$D_f = (-\infty, -2] \cup (1, 2) \cup (2, +\infty)$$