

(ب)
$$g^3 + g = 3n^2 - 1 \quad \begin{cases} g_1^3 + g_1 = 3n_1^2 - 1 \\ g_2^3 + g_2 = 3n_2^2 - 1 \end{cases}$$

(الف)
$$g^3 + 3n^2 = 1$$

$$g_1^3 + 3n_1^2 = 1$$

$$g_2^3 + 3n_2^2 = 1$$

$$g_1^3 + 3n_1^2 = g_2^3 + 3n_2^2 \Rightarrow g_1 = g_2$$

تابع هست $\Rightarrow g_1 = g_2$

(ب) تابع نیست

(الف) تابع هست

$$y = \pm \sqrt{x} \Rightarrow y^2 = x \Rightarrow y^2 + 0 = 1 \Rightarrow y^2 = 1 \Rightarrow y = \pm 1$$

شانزده

(ب) تابع هست

(الف) تابع هست

$$g^3 + 3n^2 = 1$$

$$g_1^3 + 3n_1^2 = 1$$

$$g_2^3 + 3n_2^2 = 1$$

$$g_1^3 + 3n_1^2 = g_2^3 + 3n_2^2 \Rightarrow g_1 = g_2$$

تابع هست $\Rightarrow g_1 = g_2$

(ب)
$$\cot \frac{\sqrt{\pi}}{5} = \frac{\cos}{\sin} = \frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} = \sqrt{3}$$

(الف)
$$\tan \frac{\pi}{5} = \frac{\sin}{\cos} = \frac{\frac{1}{2}}{\frac{\sqrt{3}}{2}} = \frac{1}{\sqrt{3}}$$

(ب)
$$\cot \frac{\pi}{18} = \frac{\cos}{\sin} = \frac{-1}{0} = \infty$$

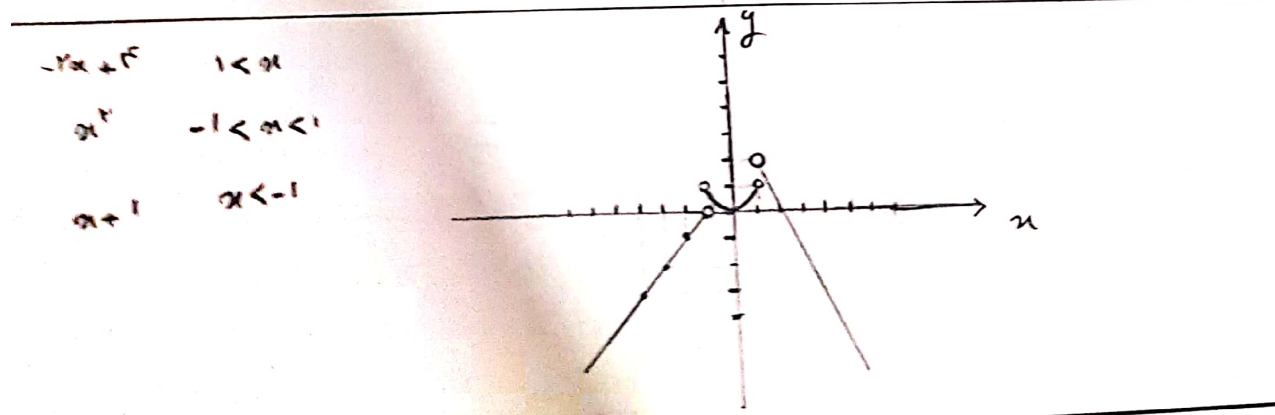
(الف)
$$\tan \frac{\pi}{18} = \frac{\sin}{\cos} = \frac{\frac{1}{2}}{\frac{\sqrt{3}}{2}} = \frac{1}{\sqrt{3}}$$

(ب)
$$\cos \alpha = \frac{\sqrt{3}}{2}$$

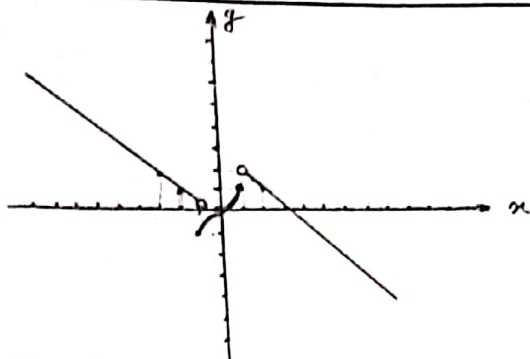
(الف)
$$\sin \alpha = \frac{1}{2}$$

$$\frac{\sqrt{\pi}}{5}, \frac{\pi}{5} : 30^\circ, 15^\circ$$

$$\frac{\pi}{5}, \frac{5\pi}{5} : 30^\circ, 150^\circ$$

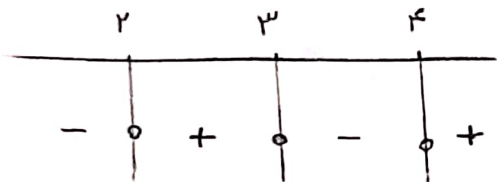


$$\begin{aligned} -x+3 & & x > 1 \\ x^3 & & -1 < x < 1 \\ -x-1 & & x < -1 \end{aligned}$$

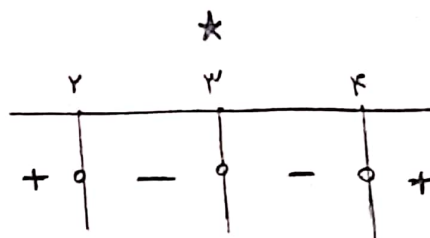


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(الف)

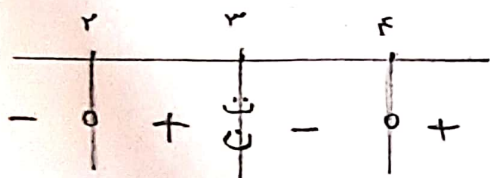


(ب)

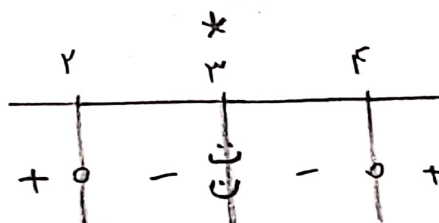


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(الف)



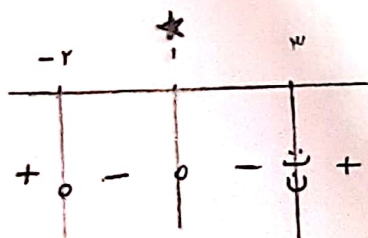
(ب)



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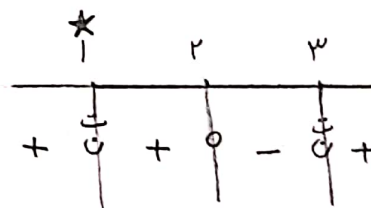
$$\frac{(x-1)^2(x+2)}{x-2}$$

(الف)



(ب)

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



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

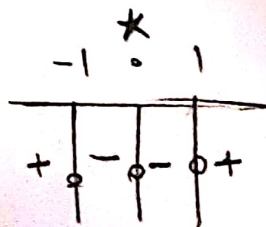
(الف)

$$x^2+x+2$$

∫

ریشه یاب

$$b^2 - 4ac = 1 - 4 = -3 < 0$$



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

(ب)

$$x^2+2x+3$$

∫

ریشه یاب

$$b^2 - 4ac = 4 - 12 = -8 < 0$$

