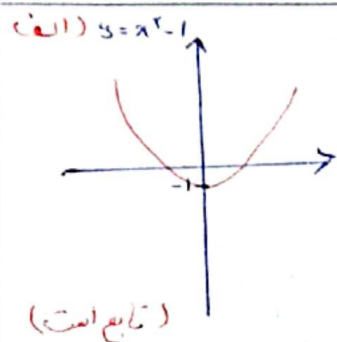


الف) $y_1^3 = 2x_1^2 - 1$ | $y_2^3 = 2x_2^2 - 1$
 $x_1 = x_2$
 $2x_1^2 - 1 = 2x_2^2 - 1 \rightarrow y_2^3 = y_1^3$
 ب) $y_1^3 + y_2 = 2x_1^2 - 1 = y_2^3 + y_2$
 $y_2^3 + y_2 = 2x_2^2 - 1$
 $- (y_1^3 - y_2^3) + (y_1 - y_2) = 0$
 $(y_1 - y_2)(y_1^2 + y_1 y_2 + y_2^2) + (y_1 - y_2) = 0$
 $(y_1 - y_2)(y_1^2 + y_1 y_2 + y_2^2 + 1) = 0$
 (تابع است) $y_1 = y_2$ (بابت پرانتز دوم صفر است.)



ب) $|y| + 2x = 2x^2 + 1$
 $x = 0 \Rightarrow |y| = 1 \Rightarrow y = \pm 1$
 (تابع نیست)
 ج) $y_1^3 = -2x_1^2 + 2x_1 - 1$
 $y_2^3 = -2x_2^2 + 2x_2 - 1$
 $x_1 = x_2 \Rightarrow y_2^3 = y_1^3$
 $y_1 = y_2$ (تابع است)

د) $(\sqrt{y})^3 - (\sqrt{y} + 2)^3$
 $\rightarrow y = (2 - \sqrt{y})^3$
 (تابع است)
 زیر باره (از) هر دو نقطه ۱ و ۲

الف) $\tan \frac{\pi}{4} = \tan \frac{\pi}{6}$
 $\frac{\sin \frac{\pi}{4}}{\cos \frac{\pi}{4}} = \frac{\sin \frac{\pi}{6}}{\cos \frac{\pi}{6}}$
 $\rightarrow \frac{\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = \frac{\frac{1}{2}}{\frac{\sqrt{3}}{2}} = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

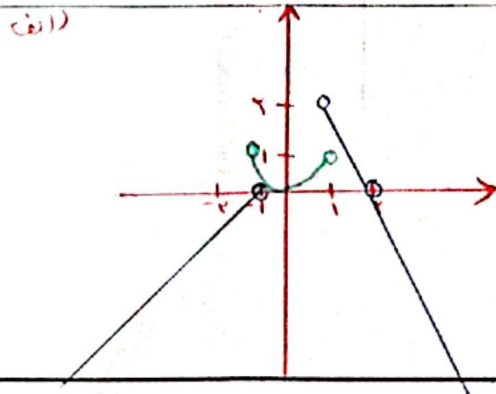
ب) $\cot \frac{\sqrt{x}}{4} = \cot \frac{\pi}{6}$
 $\frac{\cos \frac{\pi}{6}}{\sin \frac{\pi}{6}} = \frac{\cos \frac{\sqrt{x}}{4}}{\sin \frac{\sqrt{x}}{4}}$
 $\frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} = \frac{\cos \frac{\sqrt{x}}{4}}{\sin \frac{\sqrt{x}}{4}}$
 $\sqrt{3} = \frac{\cos \frac{\sqrt{x}}{4}}{\sin \frac{\sqrt{x}}{4}}$

ج) $\tan 33^\circ = \frac{\sin 33^\circ}{\cos 33^\circ}$
 $\rightarrow \frac{1}{2} = \frac{\frac{\sqrt{3}}{2}}{\frac{\sqrt{3}}{2}}$
 $\frac{-\sqrt{3}}{4} = \frac{-\sqrt{3}}{4}$

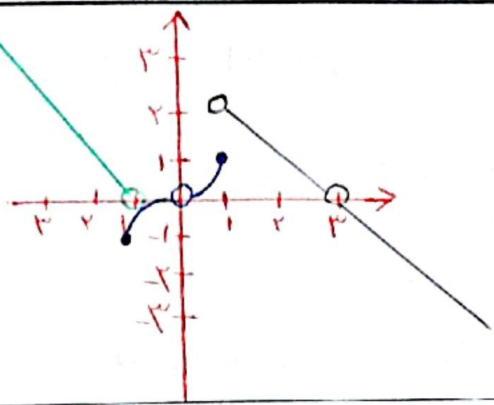
د) $\cot 18^\circ = \frac{\cos 18^\circ}{\sin 18^\circ}$
 $\frac{-1}{0}$ (تعریف نشده)

الف) $\sin \alpha = \frac{1}{2} \rightarrow \alpha = 30^\circ, 150^\circ$
 $\rightarrow \alpha = \frac{\pi}{6}, \frac{5\pi}{6}$

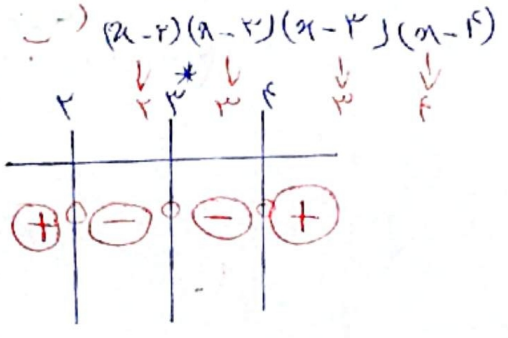
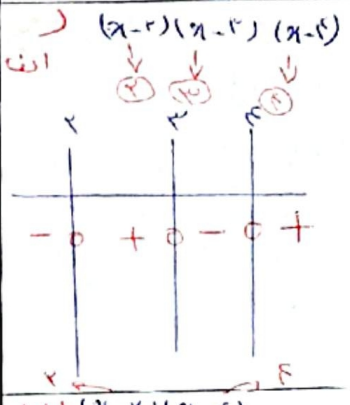
ب) $\cos \alpha = \frac{\sqrt{2}}{2} \rightarrow \alpha = 45^\circ, 315^\circ$
 $\rightarrow \alpha = \frac{\pi}{4}, \frac{7\pi}{4}$



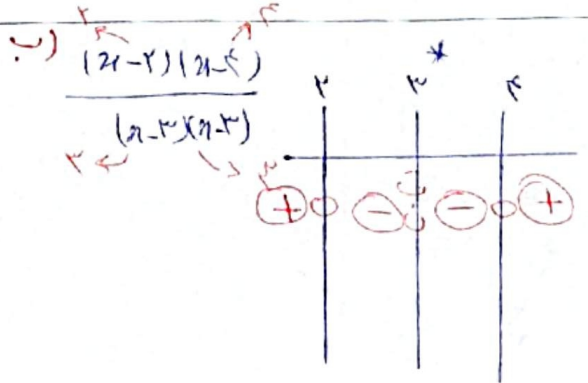
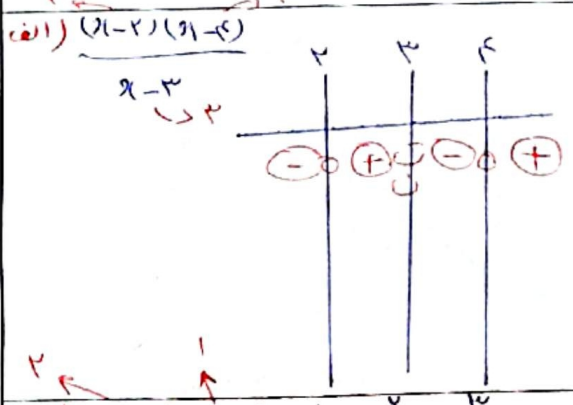
ب) دراز



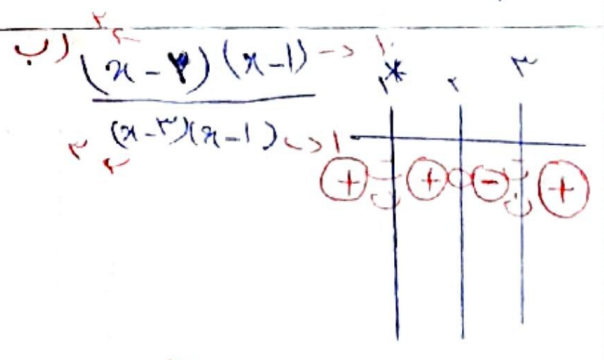
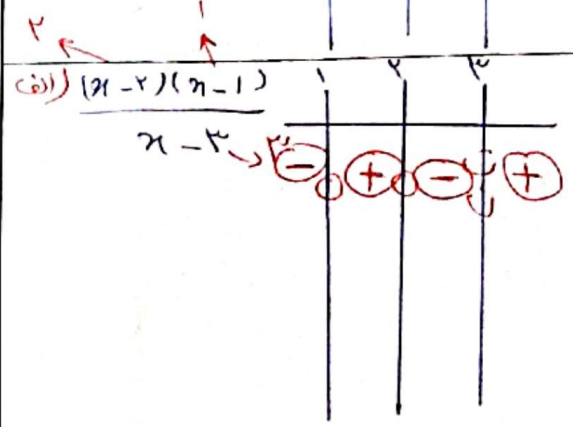
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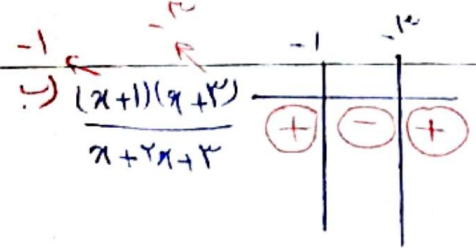
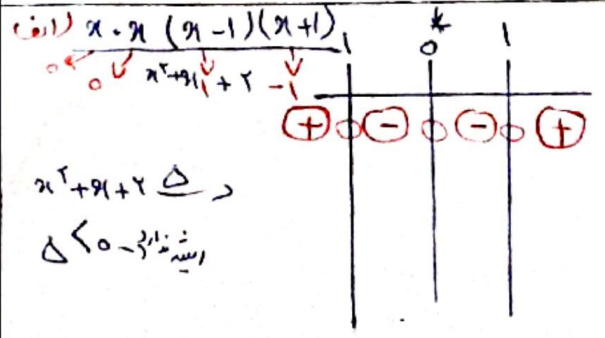
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$x+2x+3 \Delta$ $\Delta < 0$ -> لا شيء