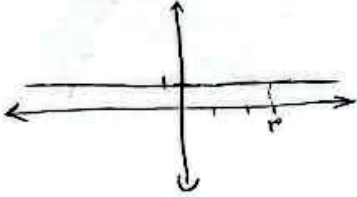
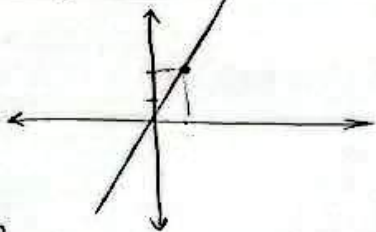
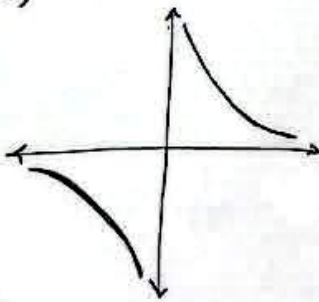
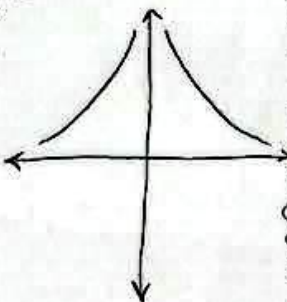
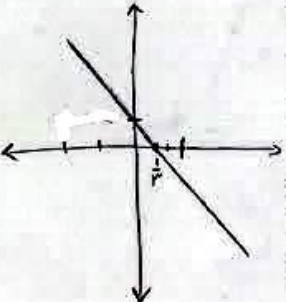
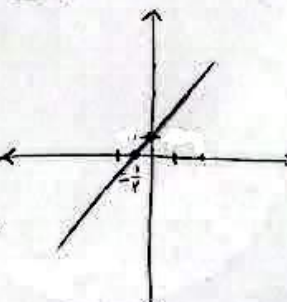
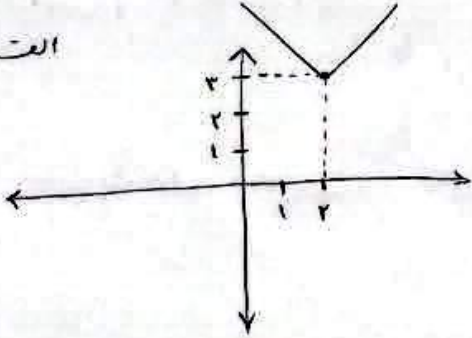
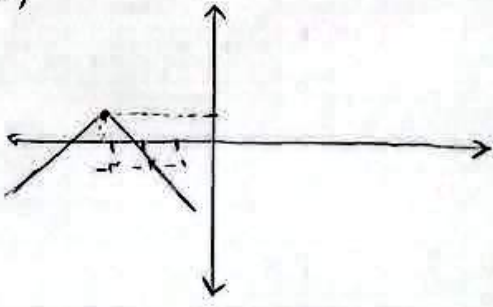
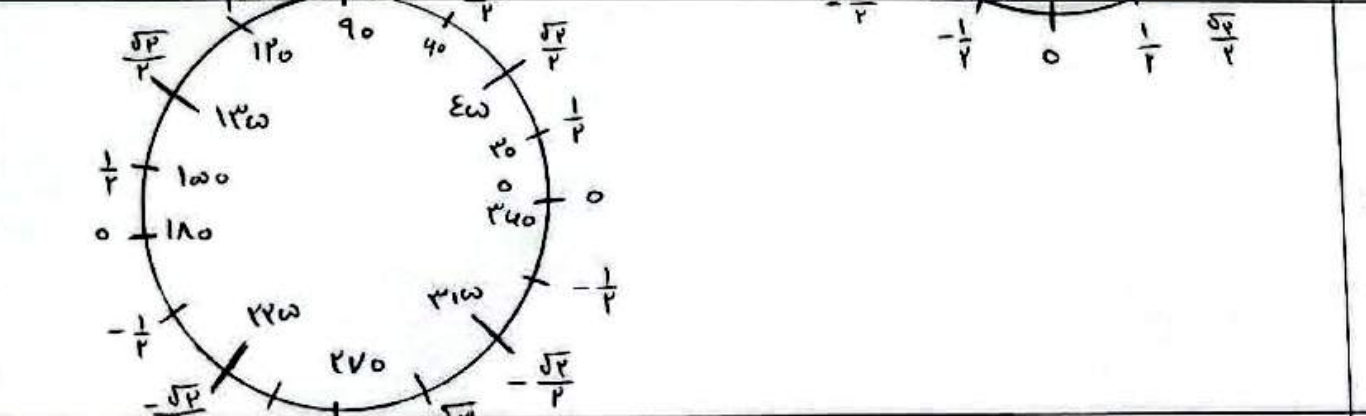
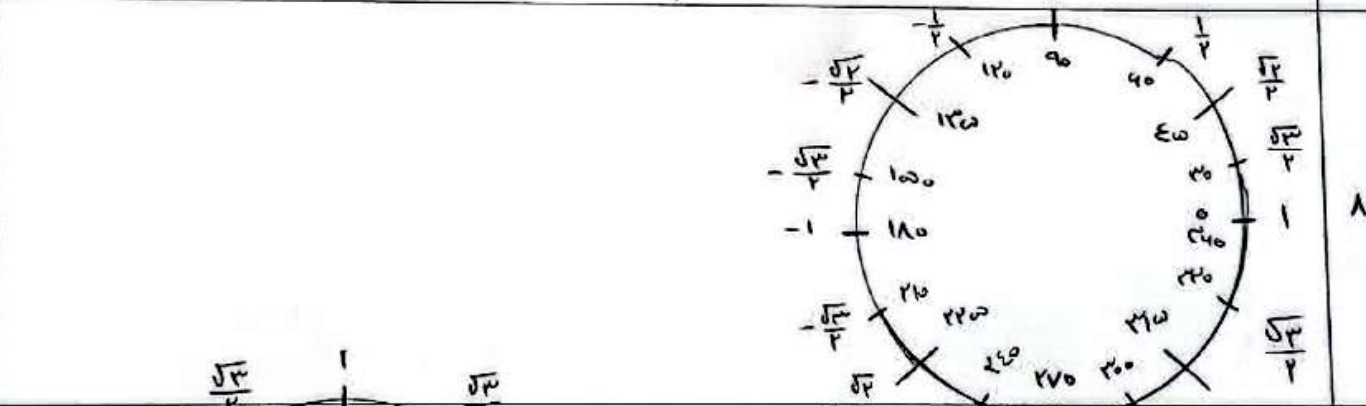


تابع X د)	تابع Y ع)	تابع X ب)	تابع Y ا)	۱
$u = \cos y$ $u = 0 \Rightarrow 0 = \cos y$ $y = \frac{\pi}{2} \text{ و } \frac{3\pi}{2}$ در این دو نقطه	$\sqrt{u-1} + y-2 = 0$ $ u-1 = 0 \Rightarrow u = 1$ $ y-2 = 0 \Rightarrow y = 2$ $\boxed{y=2}$ $\boxed{y=0}$	$ y = u + 3 - u^2$ $ u = 1$ $ y = 1 + 3 - 1 = 3$ $y = 3$ $y = -3$	$y_1' = 2u^2 + 2u$ $y_2' = 2u^2 + 2u$ $u_1 = 2u$ $y_1' = y_2'$ $y_1 = y_2$	
ا)  $y = k \rightarrow \boxed{y=1}$	ب)  $y = 2x + 0$			۲
ا) $y = au + b \xrightarrow{\text{تبدیل}} y = u$ $a + 2b = \frac{1}{2} + 2(0) = 1 + 0 = 1$	ب) $a + 2b = 2 + 2(-1) = 2 - 2 = 0$ $y = au + b + u^2$ $u = -\frac{b}{2a} = 2 \rightarrow b = -4a$ $1 = a(2) + (-4a) + (2)^2$ $1 = 2a - 4a + 4 \rightarrow 1 = 4 - 2a \rightarrow \boxed{a=2}$			۳
د) 	ع) 	ب) 	ا) 	۴
ا) 	ب) 			۵

الف) $z^2 - \varepsilon z \neq 0$ $z(z - \varepsilon) \neq 0$ $\boxed{z = \varepsilon} \leftarrow \boxed{z = 0}$ $D_f = \mathbb{R} - \{0, \varepsilon\}$	ب) $z^2 - \sqrt{2}z + 1 \neq 0$ $\Delta = b^2 - 4ac$ $\Delta = (-\sqrt{2})^2 - 4(1)(1)$ $\Delta = 2 - 4 = -2$ $D_f = \mathbb{R}$	ج) $z^2 + z + \varepsilon$ $\Delta = b^2 - 4ac$ $\Delta = (1)^2 - 4(1)(\varepsilon)$ $\Delta = 1 - 4\varepsilon = -1$ $D_f = \mathbb{R}$	د) $z^2 - \varepsilon z^2 \neq 0$ $z^2(z^2 - \varepsilon) \neq 0$ $z^2(z - 1)(z + 1) \neq 0$ $z \neq 1, -1, 0$ $D_f = \mathbb{R} - \{-1, 0, 1\}$	6
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هـ) $4 - z \geq 0$ $z \leq 4$ $z - 2 \geq 0$ $z \geq 2$ $D_f = [2, 4]$	و) جميع الأعداد الحقيقية $D_f = \mathbb{R}$	ز) $z - 2 \geq 0$ $z \geq 2$ $z - \varepsilon \neq 0$ $z \neq \varepsilon$ $D_f = [2, \varepsilon) \cup (\varepsilon, +\infty)$	ح) $12z + z^2 = 0 \rightarrow \boxed{z = 0}$ $D_f = \mathbb{R} - \{0\}$	7
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الف) $\frac{\pi}{4}, \frac{3\pi}{4} \leftarrow \text{موجب}$
 ب) $\frac{\pi}{3}, \frac{2\pi}{3} \leftarrow \text{موجب}$