

1. رابطه f به صورت $f = \{(1, a+2), (1, 4a), (2, a)\}$ تعریف شده است. ارزیابی مقدار f مقادیری که از این رابطه تابع است $f = \{(1, 4a), (1, a+2), (2, a)\}$

$$a^2 + 4 = 4a$$

$$a^2 - 4a + 4 = 0 \rightarrow a + C + b = 0 \begin{matrix} +1 \\ +3 \end{matrix}$$

$$|y| = |x|$$

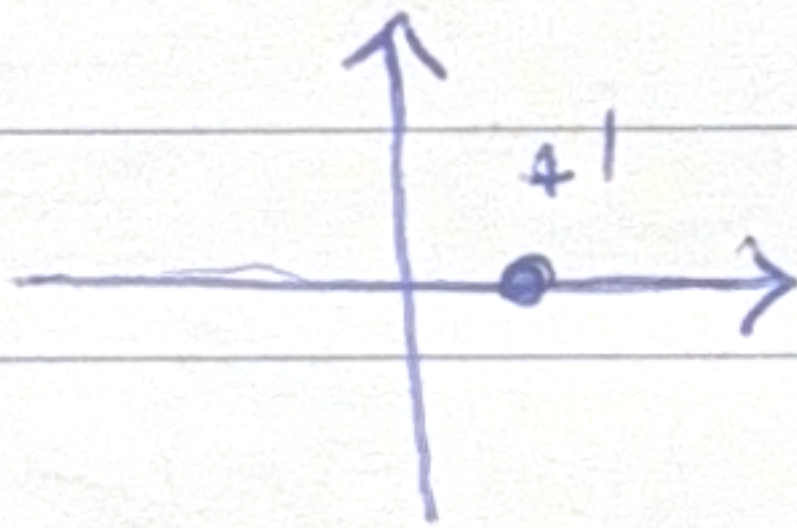
$$y = -x$$

$$y = +x$$

$$|y| + \sqrt{x-1} = 0$$

$$|y| = -\sqrt{x-1}$$

$$\begin{cases} x = +1 \\ y = 0 \end{cases}$$



2. یک رسم مثلث تابع بودن را بررسی کنید.

3. یک مثلث نقیض نشان دهد و روابط تابع نیست $x \cdot y = x$ $x=0$ $y=1 \in \mathbb{R}$

$$|y-1| = \sqrt{x-2} \rightarrow x=3 \rightarrow y=0 \text{ و } 2 \quad y=2 \quad x=\pm\sqrt{40}$$

$$y^5 - y = \frac{x^4}{2} \rightarrow 2y(y^4 - 1) = x^4 \rightarrow 2y(y-1)(y+1)(y^2+1) = x^4$$

$$\sin^2 x + \cos^2 \frac{y}{2} = 1 \quad y=0 \quad \sin^2 x = 1 \quad x \rightarrow \frac{\pi}{2} \text{ و } \frac{3\pi}{2}$$

4. تابع بودن هر یک از روابط را بررسی کنید.

$$x^2 + |y-1| = 4x$$

$$x=2 \rightarrow |y-1| = 4 \rightarrow y \rightarrow \infty \text{ و } -3$$

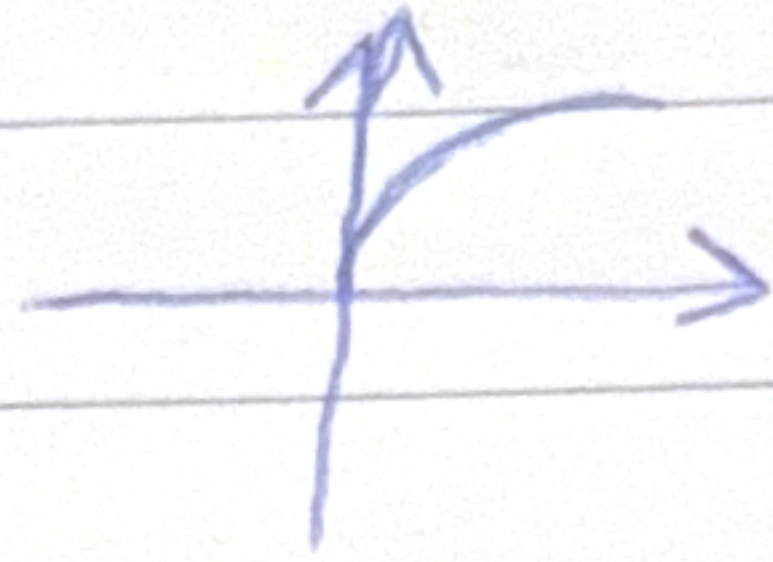
$$y^5 + 3x = 0$$

$$\rightarrow \begin{cases} y_1^5 + 3x_1 = 0 \\ y_2^5 + 3x_2 = 0 \end{cases} \xrightarrow{x_1 = x_2} \begin{cases} y_1^5 = y_2^5 \\ y_1 = y_2 \end{cases}$$

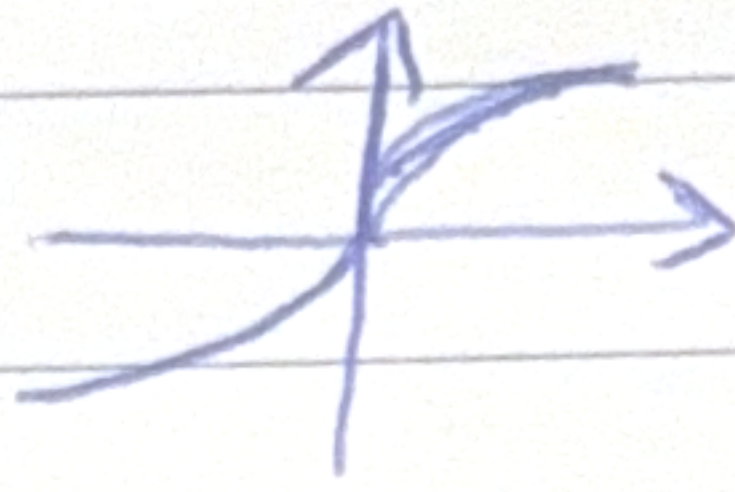
$$y_1 = y_2$$

5- نمودار توابع زیر را رسم کنید

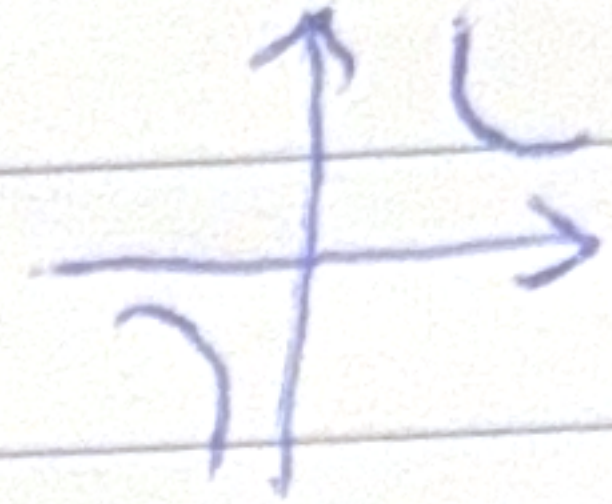
$$y = \sqrt{x}$$



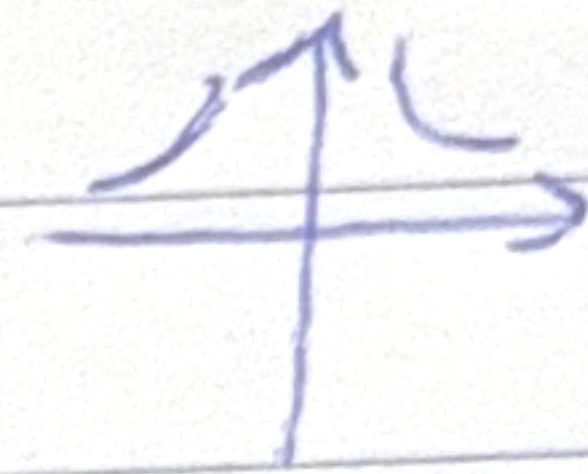
$$y = -\sqrt{x}$$



$$y = \frac{1}{x^3}$$

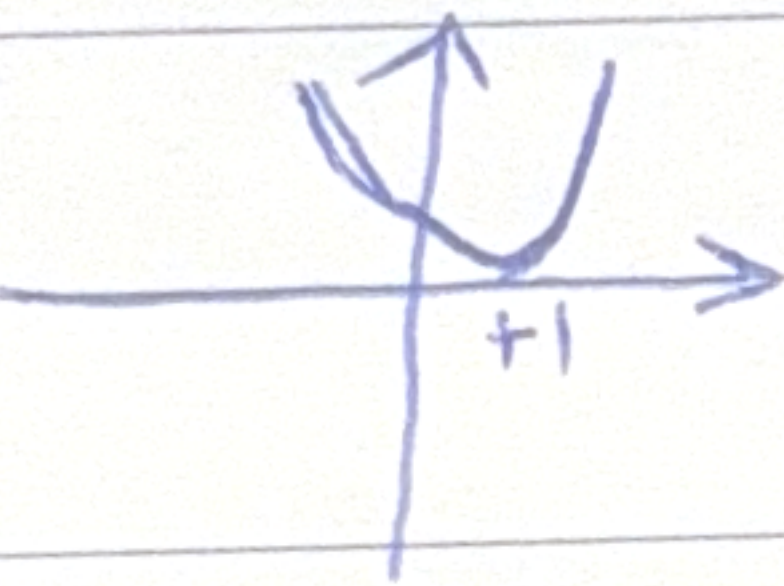


$$y = \frac{1}{x^4}$$

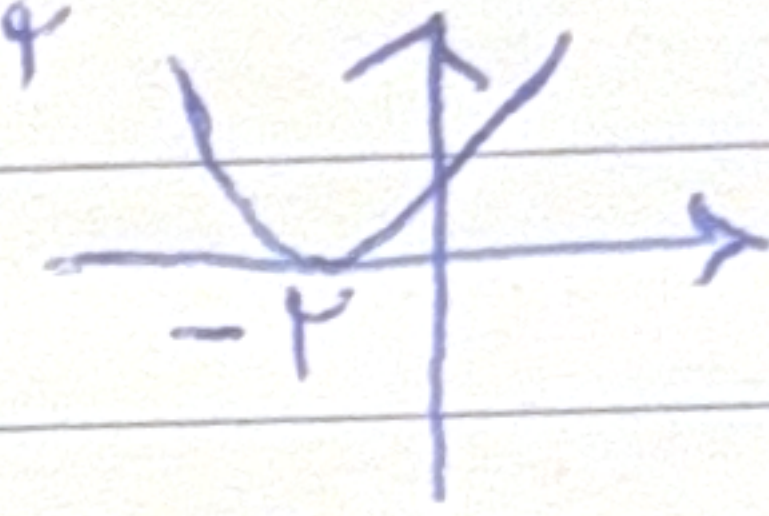


6- نمودار توابع زیر را رسم کنید

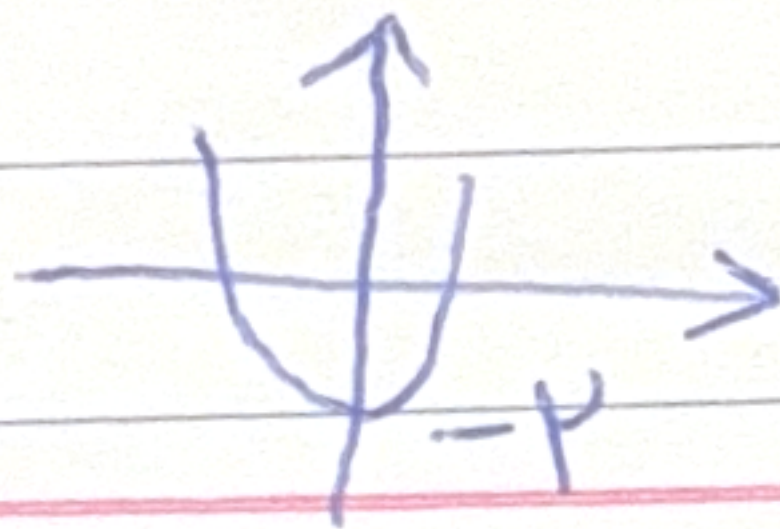
$$y = (x-1)^2$$



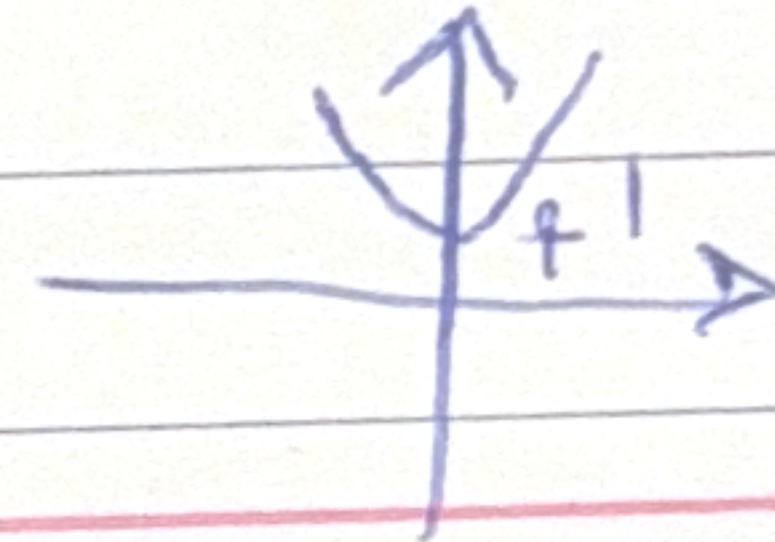
$$y = (x+2)^2$$



$$y = x^2 - 2$$

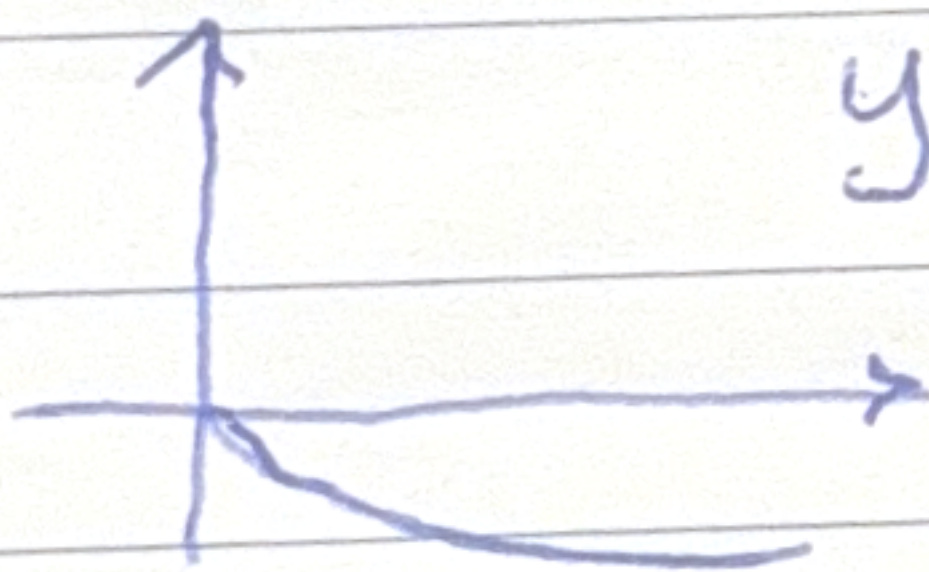


$$y = x^2 + 1$$

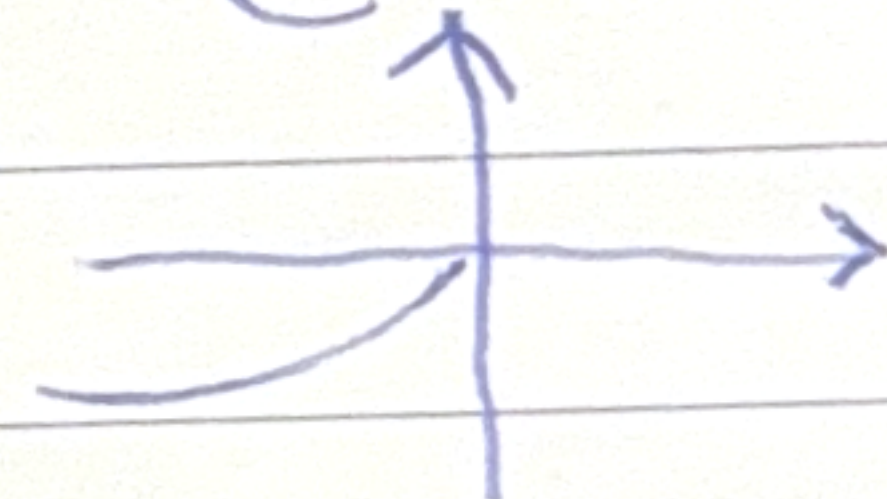


7- نمودار توابع زیر را رسم کنید

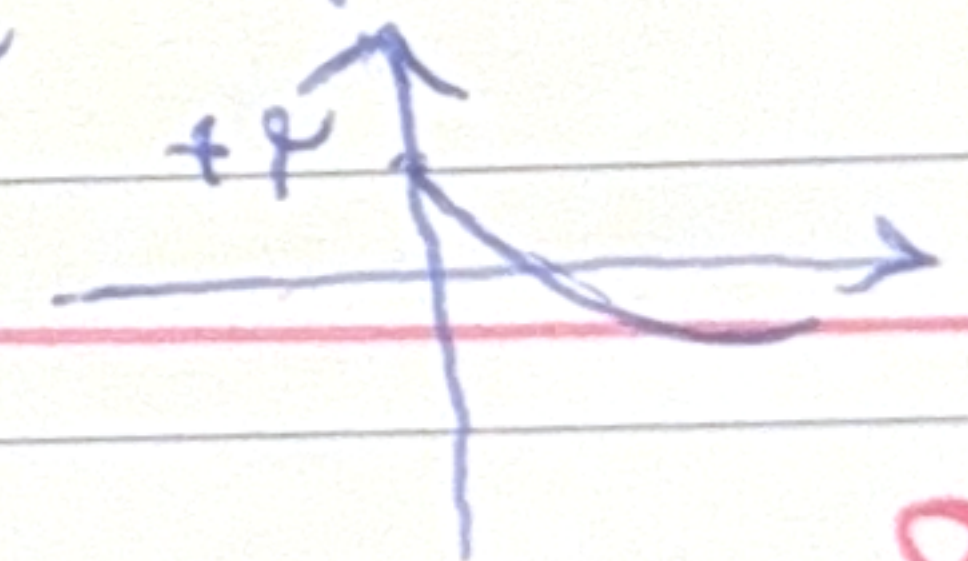
$$y = -\sqrt{x}$$



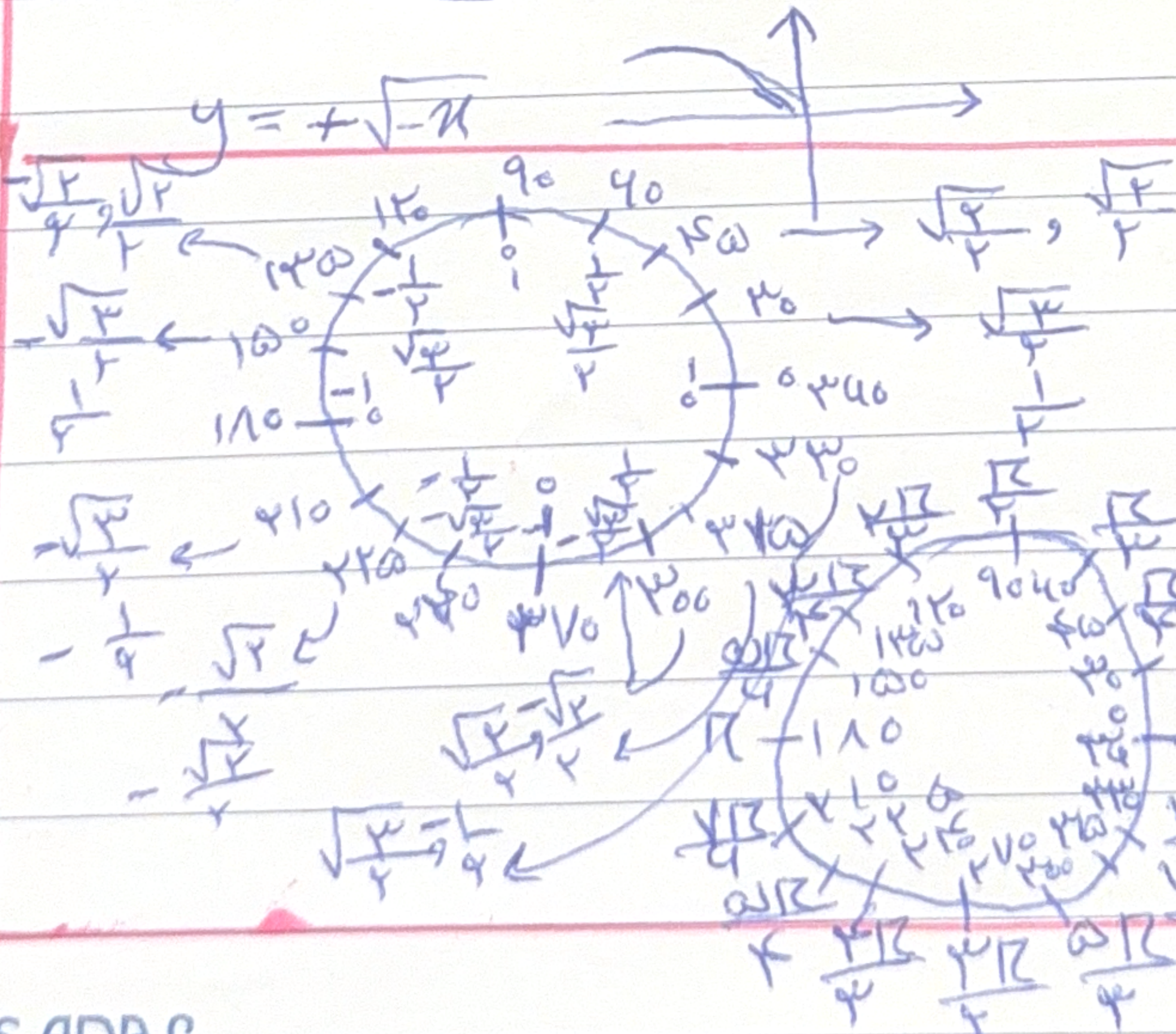
$$y = \sqrt{-x}$$



$$y = \sqrt{x+2}$$



8- دایره محاسب زین



9- دایره محاسب رادان

Date:

Day:

Time:

$$\cos 120^\circ \rightarrow -\frac{1}{2}$$

$$\sin 150^\circ \rightarrow \frac{1}{2}$$

$$\cos \frac{2\pi}{3} \rightarrow +\frac{1}{2}$$

$$\sin \frac{4\pi}{3} \rightarrow -\frac{1}{2}$$

row, column, value 10