

$$\sqrt{x-2} \rightarrow x \geq 2$$

$$x \leq 11 \quad P = [2, 11] \quad (ب)$$

$$\sqrt{2-x} \rightarrow x \leq 2$$

$$x \geq -11 \quad P = [2, -11] \quad (الف) \quad (1)$$

$$منفی \quad x \leq -3$$

$$مثبت \quad x \geq 3 \quad P = [3, +\infty) \cup [-3, \infty) \quad (ب)$$

$$x = \sqrt{2(2-x^2)} \quad x \leq 1$$

$$x \geq -1 \quad P = [-1, 1] \quad (الف) \quad (2)$$

$$صورت = \sqrt{x+1} \rightarrow x \geq 0$$

$$مخرج = \sqrt{x-3} \rightarrow x \neq 9 \quad P = R - \{9\} \quad (ب)$$

$$صورت = R \quad مخرج = \text{ناباید } x \quad 3 \text{ و } -3 \text{ باشد}$$

$$P = R - \{3, -3\} \quad (الف) \quad (3)$$

$$صورت = -2 \leq x \leq 2$$

$$مخرج = x \neq \pm 1 \quad P = [2, -2] - \{\pm 1\} \quad (ب)$$

$$صورت = -3 \leq x \leq 3$$

$$مخرج = \text{همیشه مثبت} \quad P = [3, -3] \quad (الف) \quad (4)$$

$$مخرج = R^+ \quad P = R^+ \quad (ب)$$

$$صورت = R \quad مخرج = x > 0 \quad P = R^+ \quad (الف) \quad (5)$$

$$2 - [x] > 0 \rightarrow [x] < 2 \quad (ب)$$

$$P = (2, -\infty)$$

$$2 - [x] \geq 0 \rightarrow [x] \leq 2 \rightarrow [x] < 3 \quad (الف) \quad (6)$$

$$P = (3, -\infty)$$

$$\sqrt{-x[x]} \rightarrow \text{همیشه منفی یا 0 می شود}$$

$$P = \emptyset \quad (ب)$$

$$[x] \text{ با } x \text{ همیشه هم علامت است}$$

$$P = R - \{0\} \quad (الف) \quad (7)$$

$$[x - \frac{1}{x}] + [-(x - \frac{1}{x})] \rightarrow [a] + [-a] = 0 \quad (ب)$$

$$a \in \mathbb{Z}$$

$$P = \{x \mid x = k + \frac{1}{x}, k \in \mathbb{Z}\} \quad x - \frac{1}{x} \in \mathbb{Z}$$

$$[x + \frac{y}{x}] - 1 + [x + \frac{y}{x}] \geq 0 \quad (الف) \quad (8)$$

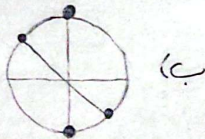
$$2[x + \frac{y}{x}] \geq 1 \quad P = [\frac{1}{x}, +\infty)$$

$$[x + \frac{y}{x}] \geq \frac{1}{2} \rightarrow x + \frac{y}{x} \geq \frac{1}{2} \rightarrow x \geq \frac{1}{x}$$

$$\tan x + 1 \neq 0 \rightarrow \tan x \neq -1$$

$$\cos x \neq 0$$

$$P = R - \{k\pi + \frac{\pi}{2}, k\pi - \frac{\pi}{2}\}$$



$$y \sin^2 x - 1 \neq 0$$

$$\sin^2 x \neq \frac{1}{y}$$

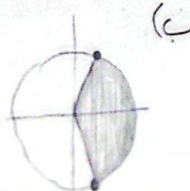
$$\sin^2 x \neq \frac{1}{y}$$

$$P = R - \{2k\pi + \frac{\pi}{\sqrt{y}}, 2k\pi + \frac{\pi}{\sqrt{y}}\}$$



$$1 - 2\cos x \geq 0 \rightarrow \cos x \geq \frac{1}{2}$$

$$P = [2k\pi + \frac{\pi}{3}, 2k\pi - \frac{\pi}{3}]$$



$$y \sin x - 1 \geq 0 \rightarrow \sin x \geq \frac{1}{y}$$

$$P = [2k\pi + \frac{\pi}{2}, 2k\pi + \frac{\pi}{y}]$$



(الف)