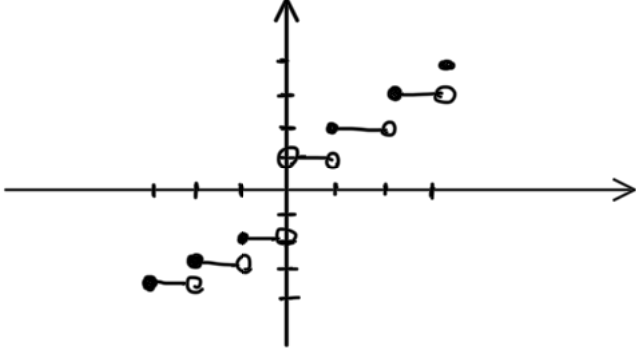
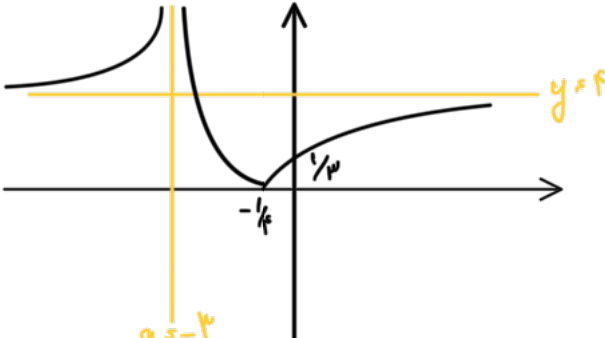
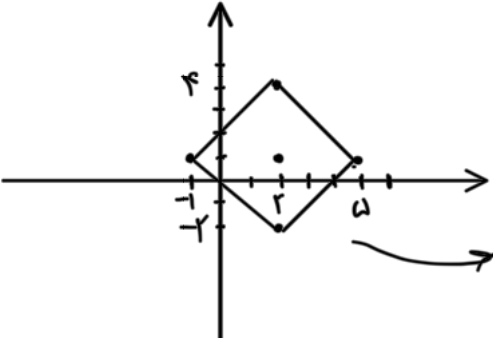
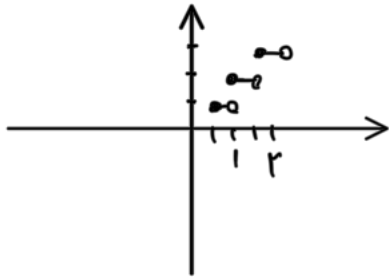


(ب) $-1 \leq \cos^3 x \leq 1 \rightarrow -1 \leq y \leq 1$ $\rightarrow R = [-1, 1]$	(الف) $0 \leq \sin^2 x \leq 1 \rightarrow -1 \leq y \leq 1$ $\rightarrow R = [-1, 1]$
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 مربع! (مثلاً)	۴
(ب) $y = -\sin^2 x + 2\sin x + 3 \rightarrow \sin x = h$ $\left. \begin{array}{l} h = -1 \rightarrow y = 0 \\ h = 1 \rightarrow y = 4 \\ \frac{-b}{2a} = \frac{-2}{-2} = 1 \rightarrow y = 4 \end{array} \right\} R = [0, 4]$	(الف) $x > 0 \rightarrow b > 2$ $\rightarrow x + \frac{1}{x} \geq b \rightarrow f = b + \sqrt{b}$ $\left. \begin{array}{l} y_{\min} \rightarrow 2 + \sqrt{2} \\ y_{\max} \rightarrow +\infty \end{array} \right\} R = [2 + \sqrt{2}, +\infty)$

$D_f = \{1, 2, \dots, 9\}$ $\rightarrow 1 + (-1/9) + 1 + (-2/9) + 1 + (-1) + \dots + 1 + (-2) = (9 \times 1) + \left(\frac{-1}{9}\right) \times (1 + \dots + 8)$ $\rightarrow 9 + \left(\frac{-1 \times 8}{9}\right) = \boxed{8\frac{1}{9}}$	6
$\sqrt{2b+c} > 1 \rightarrow 2b+c > 1$ $\sqrt{2b+c} < 0 \rightarrow 2b+c < 0$ $\rightarrow b < -1/c < -2$ $\rightarrow f(x) = \sqrt{x-2} \rightarrow g(x) = \sqrt{x^2+4} \rightarrow \mathbb{R} \rightarrow [2, +\infty)$	7
$x+2 \neq c \rightarrow x \neq -2 \rightarrow a < -2/b < -2$ $f(x) = x(x-2) = x^2 - 2x$ $y_{\min} \rightarrow \begin{matrix} 1-2 < -1 \\ c < -1 \end{matrix} \rightarrow \frac{a+b}{2c} < 2 \rightarrow f(x)$	8
$y = \sqrt[3]{(x-2)^2} \rightarrow \sqrt[3]{x^2 - 4x^2 + 12x - 4} \rightarrow a < -4/b < 12$ $x \in [-4, 12] \rightarrow -1 \leq x-2 \leq 10 \rightarrow \mathbb{R} \rightarrow [-1, 10]$	9
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از (3) با خط چین شده است.