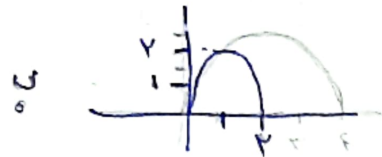
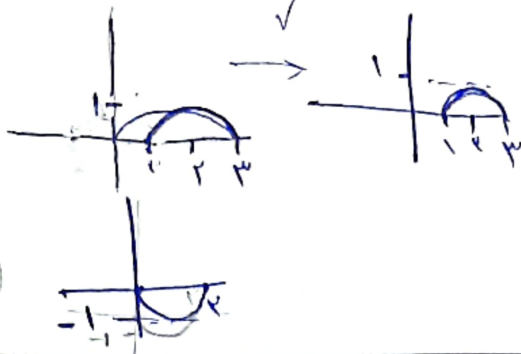


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$$\begin{aligned}
 x^2 - 5x + 4 &= 0 \quad (x-2)(x-3) \quad \frac{4}{+ \quad - \quad +} \quad (-\infty, 2) \cup (3, +\infty) \\
 x^2 - 4x + 5 &= 0 \quad (x-1)(x-5) \quad \frac{5}{+ \quad - \quad +} \quad (1, 5) \\
 x^2 + 4x + 5 &= 0 \quad (x+1)(x+5) \quad \frac{-5}{+ \quad - \quad +} \quad (-\infty, -5] \cup [-1, +\infty) \\
 x^2 - 7x + 4 &= 0 \quad (x-1)(x-6) \quad \frac{6}{+ \quad - \quad +} \quad [1, 6]
 \end{aligned}$$

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$$x - 5 \neq 0 \quad x \neq 5 \quad , \quad x^2 - 3x + 2 = 0 \rightarrow \frac{2}{- \quad + \quad -} \quad (-\infty, 1) \cup (2, 5)$$

$$\begin{aligned}
 x^2 - 1 &= 0 \quad x = \pm 1 \\
 x^2 - 4x + 5 &= 0 \quad (x-1)(x-5) \quad \frac{5}{+ \quad - \quad +} \quad D_f = (-\infty, -1] \cup (5, +\infty)
 \end{aligned}$$

$$\begin{aligned}
 x^2 - x &\neq 0 \quad x^2 \geq x \quad x^2 = 1 \rightarrow x = \pm 1 \quad \frac{-1}{+ \quad - \quad +} \quad D_f = (0, +\infty) \cup (-\infty, -1) \\
 \frac{x^2 - 1}{x^2 - x} &\geq 0 \rightarrow \frac{x^2 - 1}{x^2 - x} = 0 \rightarrow x(x-1) \\
 x^2 - 1 &\geq 0 \rightarrow (x+1)(x-1) \rightarrow \pm 1 \\
 x^2 - 5x + 4 &\geq 0 \rightarrow (x-1)(x-4) \quad \frac{4}{+ \quad - \quad +} \quad D_f = (-\infty, -1] \cup (4, +\infty) - \{1\}
 \end{aligned}$$

$$\begin{aligned}
 x - 2 &\geq 0 \rightarrow x \geq 2 \\
 x - \sqrt{x-2} &\geq 0 \rightarrow \sqrt{x-2} \leq x - 1 \rightarrow -1 \leq x - 2 \leq +1 \rightarrow -1 \leq x \leq 1 \\
 x &\geq 2 \rightarrow [2, +\infty) \\
 x &\leq 1 \rightarrow (-\infty, 1] \\
 D_f &= [2, 1]
 \end{aligned}$$

$$\begin{aligned}
 x - 2 &\geq 0 \rightarrow x \geq 2 \\
 x - \sqrt{x-2} &\geq 0 \rightarrow \sqrt{x-2} \leq x - 1 \rightarrow -9 \leq x - 2 \leq +1 \rightarrow -7 \leq x \leq 1 \\
 D_f &= [-7, 1] \rightarrow [2, 1]
 \end{aligned}$$

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$$x - y \geq 0 \quad x \leq y \quad x \leq y - \sqrt{x} \leq y \quad D_f = [-\sqrt{x}, \sqrt{x}]$$

$$x|y-1| \geq 0 \quad x|y| \geq 1 \quad |y| \geq x \quad x > y \quad (-\delta, -\frac{1}{x}] \cup [\frac{1}{x}, +\delta) \\ D_f \uparrow \\ x \geq y$$

$$|x| - y \neq 0 \quad |x| \neq y \quad -y \neq x \neq y \quad D_f = \mathbb{R} - \{\pm y\}$$

$$\sqrt{x} \rightarrow x \in \mathbb{R}$$

$$\sqrt{x} - y \neq 0 \quad \sqrt{x} \neq y \quad x \neq y \quad D_f = \mathbb{R} - \{y\} \cup (-1, -\delta) \\ D_f = \mathbb{R}^+ - \{y\}$$

$$x \cos x - 1 \neq 0 \quad x \cos x \neq 1 \quad \cos x \neq \frac{1}{x} \quad D_f = \mathbb{R} - \left\{ \frac{1}{x} \right\} \cup \left\{ \frac{1}{x} \right\}$$

$$x \sin x + 1 \neq 0 \quad \sin x \neq -\frac{1}{x} \quad D_f = \mathbb{R} - \left\{ \frac{1}{x} \right\} \cup \left\{ \frac{1}{x} \right\} \quad \frac{1}{x} = -\frac{1}{x}$$

$$\cot x - 1 \neq 0 \quad \cot x \neq 1 \quad \cos x \neq 0 \quad D_f = \mathbb{R} - \left\{ \frac{k\pi}{x} \right\} \cup \left\{ \frac{k\pi}{x} \right\}$$

$$x \sin x - y \neq 0 \quad \sin x \neq \frac{y}{x} \quad \sin x \neq \pm \sqrt{\frac{y}{x}} \quad D_f = \mathbb{R} - \left\{ \frac{k\pi}{x} \right\} \cup \left\{ \frac{k\pi}{x} \right\}$$

$$|x-y| - \frac{1}{x} > 0 \quad |x-y| > \frac{1}{x} \quad |x-y| > \frac{1}{x} \rightarrow x-y > \frac{1}{x} \rightarrow x > \frac{1}{x} \rightarrow x > \frac{1}{x}$$

$$\frac{1}{x}, \frac{1}{y} \quad \frac{1}{x}, \frac{1}{y} \\ + \frac{1}{x} \quad - \frac{1}{y} \quad +$$

$$\frac{1}{x} = \frac{1}{y} \quad \frac{1}{y} = \frac{1}{x}$$

$$(x, y, +\delta) \cup (-\delta, y, x)$$

$$x - y \geq 0 \quad x|y| \leq y \quad |x| \leq y \quad -y \leq x \leq y \quad D_f = [-y, y]$$

$$\frac{|x|}{|y|} \geq 0 \quad = \mathbb{R} - \{0\}$$