

$$\sqrt{x} + \sqrt{y-1} = \sqrt{3}$$

$$\sqrt{y-1} = \sqrt{3} - \sqrt{x}$$

$$y = 1 + 3 + x - 2\sqrt{3x}$$

$$\rightarrow 3x \geq 0 \rightarrow x \geq 0 \rightarrow D_f = [0, +\infty)$$

$$\begin{aligned} \sqrt{x} &\rightarrow x \geq 0 \\ \sqrt{3} - \sqrt{x} &\geq 0 \rightarrow x \leq 3 \rightarrow [0, 3] \end{aligned}$$

الحدود

-1

(1)

$$y = \frac{\sqrt{x^2 - 4x + 4}}{\sqrt{x^2 - 10x + 16}}$$

$$-9x + 14 > 0 \rightarrow x < \frac{14}{9}$$

$$z = 1 \text{ و } 2$$

$$z(x-2)(x-1) = 0$$

$$\begin{aligned} & \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \rightarrow (-\infty, 1] \cup [2, +\infty) \\ & \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \rightarrow (-\infty, 2) \cup (1, +\infty) \end{aligned}$$

(1, 25)

(-\infty, 1]

الف

9

$$y = \sqrt{\frac{x^2 - 4x + 4}{x^2 - 10x + 16}} \rightarrow \frac{x^2 - 4x + 4}{x^2 - 10x + 16} \geq 0$$

$$z = 1 \text{ و } 2$$

$$D_f = (-\infty, 1] \cup [2, 4] \cup (1, +\infty)$$

$$y = \frac{\sqrt{x^2 - 4x + 4}}{\sqrt{x^2 - 10x + 16}} \geq 0 \quad \text{الحدود} = \begin{cases} \text{صفر} = 1 \text{ و } \frac{16}{4} \\ \text{خارج} = 1 \text{ و } \frac{16}{4} \end{cases}$$

$$\frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \rightarrow (-\infty, 1] \cup [\frac{16}{4}, +\infty) \rightarrow A$$

$$\frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \rightarrow (-\infty, 1) \cup (\frac{16}{4}, +\infty) \rightarrow B$$

$$A \cap B = (-\infty, 1) \cup [\frac{16}{4}, +\infty) \leftarrow D_f$$

$$y = \sqrt{\frac{2x^2 - 10x + 12}{2x^2 - 10x + 16}} \geq 0$$

$$\frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \rightarrow D_f = (-\infty, 1) \cup (1, \frac{16}{4}) \cup [\frac{16}{4}, +\infty)$$

$$D_f = (-\infty, 1) \cup (1, \frac{16}{4}) \cup [\frac{16}{4}, +\infty)$$

ب 9

-1.

(2)

شایان روش ساده

$$= \{(1,2)(1,3)(2,2)(2,3)(2,2)(2,3)\} - \{(2,2)(2,3)(2,3)(2,2)\}$$

(2)

$$= \{(1,2)(1,3)\}$$

✓

$m^2 = m + 2$ $m^2 - m - 2 = 0$ $(m+1)(m-2) = 0$ $\rightarrow m = -1, m = 2$ $(m=2 \rightarrow (2,1) \text{ و } (2,2) \rightarrow m \neq 2$	$m^2 = m + 2$ $\rightarrow m = -1, m = 2$ $m = -1 \rightarrow (-1,2) \text{ و } (-1,3) \rightarrow m \neq -1$ $m = 2 \rightarrow (2,1) \text{ و } (2,2) \rightarrow m = 2$
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(1,2)

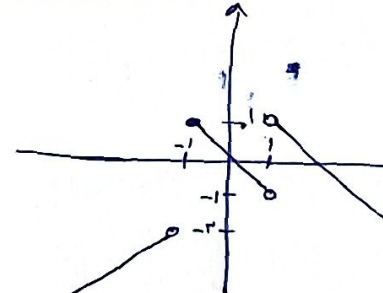
$x=1 \rightarrow 1^2 - 1 = a + b = 0 \rightarrow ab = -4$ $x=2 \rightarrow 2^2 - 1 = 2a + b$ $\rightarrow 2a + b - (a + b) = 1$ $\rightarrow a = 1 \Rightarrow b = -1$	
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✓ (2)



$$x = k \rightarrow 2k - 3 = 5 - 3k \rightarrow k = \frac{8}{5} = 1.6$$

✓ (2)



$$D_f = \mathbb{R} - \{1\}$$

$$R_f = (-\infty, 1]$$

✓ (2)

تابع متعلق (1, 3/2) است

$$x^2 - 2x = -2y^2 + 12y = 0$$

$$(x-1)^2 = -(2y+3)^2$$

$$\rightarrow x-1 = |2y+3| \rightarrow x = 1 + |2y+3|$$

$$\text{اگر } x=10 \rightarrow 2y+3=9 \text{ و } 2y+3=-9 \rightarrow y=3 \text{ و } y=-6$$

تابع متعلق (1, 3/2) است

$x \sin y = y \sin x$
 $x \neq 0 \rightarrow 0 \sin y = y \sin 0 \rightarrow y = 0$

$\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2$
 $\rightarrow \frac{x}{y} + \frac{y}{x} + 2\sqrt{1} = 4 \rightarrow \frac{x^2+y^2}{xy} = 2 \rightarrow (x-y)^2 = 0 \rightarrow x=y$

$\frac{x-1}{x-2} \geq 0$
 $\rightarrow (-\infty, 1] \cup (2, +\infty)$

$\frac{x-1}{x} \geq 0 \rightarrow (0, 1] \cup (2, +\infty)$

$A \cap B = (0, 1]$

$\sqrt{x^2-1} + \sqrt{y^2-1} = \sqrt{xy}$