

$$y = \sqrt{\frac{r^2x + r + ax + ab}{x+b}} \rightarrow \frac{(r^2 + a)bx + r + ab}{x+b} > 0 \rightarrow x \neq b \rightarrow -b = r$$

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$$\text{الف) } x^3 - x > 0 \rightarrow x(x^2 - 1) > 0 \Rightarrow x = 0, \pm 1 \quad \text{ب) } \frac{-1 \pm \sqrt{1 + \frac{1}{4}}}{-2} \rightarrow D = [-1, 0] \cup [1, +\infty)$$

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$$\text{ب) } |x| - 1 > 0 \rightarrow |x| > 1 \rightarrow x > 1 \text{ or } x < -1 \Rightarrow D = (-\infty, -1) \cup (1, +\infty)$$

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$$\text{الف) } |x| - [x] \neq 0 \rightarrow D = \mathbb{R} - \mathbb{Z}^+ \cup \{0\} = \mathbb{R} - \mathbb{N}$$

$$\text{ب) } \sqrt{y} = -\sqrt{x+9} \rightarrow -\sqrt{x+9} > 0 \rightarrow \sqrt{x} < 9 \rightarrow 0 \leq x \leq 81$$

$$D = [0, 81]$$

$$[x - \frac{1}{x}] + [x + \frac{1}{x}] > 0 \rightarrow [x - \frac{1}{x} - 1] + [x + \frac{1}{x} + 1] > 0$$

$$[x + \frac{1}{x}] > 0 \rightarrow [x + \frac{1}{x}] > 0 \rightarrow |x + \frac{1}{x}| > 0 \Rightarrow x > \frac{1}{x}$$

$$D = [\frac{1}{e}, +\infty)$$

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$$\text{الف) } (rx - a) > 0 \rightarrow x > \frac{a}{r} \rightarrow rx - a < 10 \rightarrow x < \frac{10+a}{r}$$

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$$rx - a > 0 \rightarrow x > \frac{a}{r} \Rightarrow \frac{a}{r} = b, \frac{10+a}{r} = c$$

$$c - b = \frac{10+a}{r} - \frac{a}{r} = \frac{10}{r} = 3$$