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نام خانوادگی

کلاس دهم A سال

$$جواب: y = \frac{\sin x - 1}{2\cos x + 1} \rightarrow 2\cos x + 1 \neq 0 \rightarrow 2\cos x \neq -1 \rightarrow \cos x \neq -\frac{1}{2}$$

$$\rightarrow DF = R - \left\{ 2k\pi + \frac{2\pi}{3}, 2k\pi + \frac{4\pi}{3} \right\}$$

$$جواب: y = \frac{\sin x + 1}{\cos x - 1} \rightarrow \cos x - 1 \neq 0 \rightarrow \cos x \neq 1 \rightarrow DF = R - \{2k\pi\}$$

$$جواب: y = \frac{2\sin x + 1}{\tan x + 1} \xrightarrow{\text{نسبت مساوی ضرب و تقسیم}} \tan x + 1 \neq 0 \rightarrow \tan x \neq -1$$

$$\rightarrow DF = R - \left\{ k\pi - \frac{\pi}{4}, k\pi + \frac{3\pi}{4} \right\}$$

$$جواب: y = \frac{\cos x + 1}{\cot x - 1} \xrightarrow{\text{نسبت مساوی ضرب و تقسیم}} \cot x - 1 \neq 0 \rightarrow \cot x \neq 1$$

$$\rightarrow DF = R - \left\{ k\pi + \frac{\pi}{4}, k\pi \right\}$$

$$جواب: \sin y = x^2 - 2 \rightarrow \cancel{x^2 - 2} \quad -1 \leq x^2 - 2 \leq 1$$

$$\rightarrow -1 \leq x^2 - 2 \rightarrow -1 \leq x^2 \rightarrow 1 \leq x^2 \rightarrow x^2 \leq 1 \rightarrow x^2 \leq 3 \rightarrow x \leq \sqrt{3} \rightarrow x \geq -\sqrt{3}$$

$$\rightarrow DF = \{1, \sqrt{3}\} \cup \{-\sqrt{3}, -1\}$$

جواب قسمت ب در صفحه بعد

$$1) y = \arccos(\sqrt{x} - 1) \rightarrow -1 \leq \sqrt{x} - 1 \leq 1$$

$$3 \rightarrow -1 \leq \sqrt{x} - 1 \rightarrow 0 \leq \sqrt{x} \rightarrow 0 \leq x, \sqrt{x} - 1 \leq 1 \rightarrow \sqrt{x} \leq 2 \rightarrow x \leq 4$$

$$\rightarrow Df = \{0, 4\}$$

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$$2) \cos y = |x| - 1 \rightarrow -1 \leq |x| - 1 \leq 1$$

9

$$\rightarrow -1 \leq |x| - 1 \rightarrow 0 \leq |x| \rightarrow 0 \leq x, -1 \leq |x| - 1 \rightarrow |x| \leq 2 \rightarrow x \leq 2, x \geq -2$$

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$$|x| - 1 \leq 1 \rightarrow |x| \leq 2 \rightarrow x \leq 2, x \geq -2$$

$$Df = (\{x, +\infty\} \cup \{-\infty, -2\}) \cap ((-\infty, 2] \cup [-2, +\infty))$$

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$$\rightarrow Df = \{x, 2\} \cup \{-2, x\}$$

18

$$1) y = \arcsin(x^2 + 2x + 1) \rightarrow -1 \leq x^2 + 2x + 1 \leq 1$$

$$-1 \leq x^2 + 2x + 1 \rightarrow 0 \leq x^2 + 2x + 2 \rightarrow 0 \leq (x+1)(x+2)$$

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$$x^2 + 2x + 1 \leq 1 \rightarrow x^2 + 2x \leq 0 \rightarrow x(x+2) \leq 0$$

$$\frac{x^2 + 2x + 1}{x^2 + 2x + 1} = \frac{x^2 + 2x + 1}{x^2 + 2x + 1}$$

$$Df = \{-2, -1\} \cup \{-1, 0\}$$

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الف) $y = \log_{\mu} x^2 - 4$ -4
 $\rightarrow x^2 - 4 > 0 \rightarrow x^2 > 4 \rightarrow x > 2, x < -2$

3
 $\rightarrow Df = (2, +\infty) \cup (-\infty, -2)$

ب) $y = \log_p x - |x|$
 $\rightarrow x - |x| > 0 \rightarrow x > |x| \rightarrow x > x, -x < x$

$\rightarrow Df = (-x, x)$

9
الف) $y = \log_{x-3} 0 - x$ -9
 $\rightarrow 0 - x > 0 \rightarrow 0 > x, x - 3 > 0 \rightarrow x > 3, x - 3 \neq 1 \rightarrow x \neq 4$

12
 $\rightarrow Df = (3, \infty) - \{4\}$

15) $y = \log_{x+3} x^2 - 1$
 $\rightarrow x^2 - 1 > 0 \rightarrow x^2 > 1 \rightarrow x > 1, x < -1$

$x + 3 > 0 \rightarrow x > -3, x + 3 \neq 1 \rightarrow x \neq -2$

18
 $\rightarrow Df = (-3, -1) \cup (1, +\infty) - \{-2\}$

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الف) $y = \log \frac{x^r - rx + r}{x-r} \rightarrow \frac{x^r - rx + r}{x-r} > 0 \rightarrow \frac{(x-1)(x-r)}{x-r} > 0$ ✓

3 $\frac{x}{-1} + \frac{1}{x} + \frac{r}{x} \rightarrow Df = (r, +\infty) \cup (1, r)$

ب) $y = \log \frac{x+r}{x-r} \rightarrow \frac{x+r}{x-r} > 0 \rightarrow \frac{x-r}{x-r} = (-\infty, -r) \cup (r, +\infty)$

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$x+0 > 0 \rightarrow x > 0$, $x+0 \neq 1 \rightarrow x \neq -r$

9 $\rightarrow Df = (-0, -r) \cup (r, +\infty) - \{-r\}$

الف) $y = \sqrt{r - \log_y^{(x-1)}} \rightarrow x-r > 0 \rightarrow x > r$

$r - \log_y^{(x-1)} > 0 \rightarrow r > \log_y^{(x-1)} \rightarrow x-r > r^r, x > 1$

15

$\rightarrow Df = \{1, +\infty\}$

6. $y = \log(x \log^x x - 1) \rightarrow x$. قسم حذف

$$x \log^x x - 1 > 0 \rightarrow x \log^x x > 1 \rightarrow \log^x x > \frac{1}{x} \rightarrow x > x^{\frac{1}{x}}$$

9

$$Df = (x^{\frac{1}{x}}, +\infty)$$

18 الف $y = \frac{x}{x^n + 1} \rightarrow x^n + 1 \neq 0 \rightarrow x^n \neq -1 \rightarrow x \neq \log_x^{-1}$ 9

$\rightarrow Df = R - \{\log_x^{-1}\}$

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ب $y = \frac{x}{x^n - 1} \rightarrow x^n - 1 \neq 0 \rightarrow x^n \neq 1 \rightarrow x \neq 0$

کیون پارس $\rightarrow Df = R - \{0\}$

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$$2) y = \frac{r}{r^n - r} \rightarrow r^n - r \neq 0 \rightarrow r^n \neq r \rightarrow n \neq \log_r r$$

$$3 \rightarrow Df = R - \{\log_r r\}$$

$$5) y = \frac{r}{r^n - r} \rightarrow r^n - r \neq 0 \rightarrow r^n \neq r \rightarrow n \neq \log_r r$$

$$\rightarrow Df = R - \{\log_r r\}$$

$$9 \quad 10 \quad 11) y = (r^{n+1})! \rightarrow r^{n+1} \in W \rightarrow r^n \in W-1 \rightarrow n \in \frac{W-1}{r}$$

$$12 \rightarrow Df = \left\{ \frac{n-1}{r} \mid n \in W \right\}$$

$$14) y = \left(\frac{r^n - r}{r^n - 0} \right)! \rightarrow \frac{r^n - r}{r^n - 0} \in W \rightarrow r^n - r \in W(r^n - 0)$$

$$\rightarrow r^n - r \in r^n W - 0W \rightarrow r^n - r \in -0W + r$$

$$18 \quad n(r - rW) \in -0W + r \rightarrow n \in \frac{-0W + r}{r - rW}$$

$$\rightarrow Df = \left\{ \frac{-0W + r}{r - rW} \mid n \in W \right\}$$

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