

نام و نام خانوادگی زیربسیار بسیار زیاده پاسخنامه تشریحی تکلیف شماره ... کلاس پایه دهم، هنرستان
 نام و نام خانوادگی زیربسیار بسیار زیاده پاسخنامه تشریحی تکلیف شماره ... کلاس پایه دهم، هنرستان

الف) $\frac{x-1}{x} - \frac{x}{x-1} \geq 0 \rightarrow \frac{(x-1)^2 - x^2}{x(x-1)} \geq 0$ $\frac{1-x}{x(x-1)} \geq 0$ $\frac{1-x}{x(x-1)} \geq 0$ $\frac{1}{x} - \frac{1}{x-1} \geq 0$

ب) $x+1 \neq 0 \Rightarrow x \neq -1$ $x \neq 0$
 $x-1 \neq 0 \Rightarrow x \neq 1$ $x+2 \neq 0 \Rightarrow x \neq -2$

$D_f = (-\infty, 0) \cup (\frac{1}{x}, 1)$

$\frac{x}{x-1} + \frac{1}{x+2} = \frac{x(x+2) + x-1}{(x-1)(x+2)} = \frac{x^2 + 3x - 1}{(x-1)(x+2)}$

$D_f = R - \{-1, 1, 0, -2, -\frac{1}{x}\}$

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الف) $(\frac{1}{x})^x - 9 = 0 \Rightarrow (\frac{1}{x})^x = 9 \Rightarrow x = -2$

ب) $x^2 - 4 = 0 \Rightarrow x^2 = 4 \Rightarrow x = \pm 2$

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

ج) $\sqrt{x-1} + \sqrt{y+1} = 2 \rightarrow \sqrt{x-1} = 2 - \sqrt{y+1} \rightarrow \sqrt{x-1} \geq 0 \rightarrow 2 - \sqrt{y+1} \geq 0 \rightarrow \sqrt{y+1} \leq 2 \rightarrow y+1 \leq 4 \rightarrow y \leq 3$

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

$D_f = [1, 2]$

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

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

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

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$x^2 + ax - a^2 \geq 0 \rightarrow -x^2 + ax + a^2 \leq 0$

$x = -a \Rightarrow -a^2 - pa + a^2 = 0$ $ax + b = -x^2 + 1, a = [1]$

$-pa - 1 = 0 \rightarrow -pa = 1 \rightarrow a = -\frac{1}{p} = -\frac{1}{x}$

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

$-2x^2 - x + 4 \geq 0 \rightarrow x^2 - x - 2 \leq 0 \rightarrow (x-2)(x+1) \leq 0$

$-1 \leq \frac{x}{-p} \leq \frac{4}{-p} \Rightarrow x = \frac{p}{-p} = \frac{p}{p} = [1, 4]$

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$f(x) = x \geq 0 \Rightarrow x \geq 1 \Rightarrow x^2 - 1 \geq 0 \rightarrow x^2 - 2 \geq 0 \rightarrow x \geq \sqrt{2}$

$f(x) = x \geq 0 \Rightarrow x < 1 \Rightarrow x^2 + 1 \geq 0 \rightarrow x^2 + 3 \geq 0 \rightarrow x \geq -\sqrt{3}$

$D_f = [-\sqrt{3}, +\infty)$

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$$\sin \frac{\pi}{p} = \frac{\sqrt{p}}{p} \quad / \quad \cos p\pi = 1$$

$$F(\sin \frac{\pi}{p} + \cos p\pi) = \frac{\sqrt{p}}{p} + \frac{p}{p} = \frac{p + \sqrt{p}}{p}$$

$$p \times \frac{p + \sqrt{p}}{p} \times \frac{p + \sqrt{p}}{p} = F \times \frac{p + \sqrt{p}}{p}$$

$$\frac{p + p + F\sqrt{p}}{p} + \frac{-1 - F\sqrt{p}}{p} \left[\frac{-1}{p} \right]$$

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$$F(F(a)) = a$$

$$F(a) = \frac{a+1}{a-1} \Rightarrow F\left(\frac{a+1}{a-1}\right) = \frac{\frac{a+1}{a-1} + 1}{\frac{a+1}{a-1} - 1} = \frac{a+1+a-1}{a-1} = \frac{2a}{a-1}$$

$$a-1 \neq 0 \Rightarrow a \neq 1$$

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$$\frac{a+1}{a-1} - 1$$

$$\frac{a+1+a-1}{a-1}$$

$$= \frac{2a}{a-1} = \frac{p a}{p} = a$$

$$= \frac{p a}{p} = a$$

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$$F(g(a)) = -F$$

$$g(a) = \sqrt{a^p - 1}$$

$$F(\sqrt{a^p - 1}) = (\sqrt{a^p - 1})^p - F\sqrt{a^p - 1} = a^p - 1 - F\sqrt{a^p - 1} = -F$$

$$\sqrt{a^p - 1} = t \rightarrow t^p - F t = -F \rightarrow t^p - F t + F = 0 \Rightarrow (t - F)^p = 0 \rightarrow t = F$$

$$\sqrt{a^p - 1} = F \xrightarrow{\text{square}} a^p - 1 = F^2 \rightarrow a^p = F^2 + 1 \rightarrow a = \pm \sqrt{F^2 + 1}$$

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$$F(x+p) = x^p - \omega x + \psi$$

$$F(x) \times F(-p)$$

$$x+p = F \Rightarrow x = F - p \rightarrow F(F) = 1 - \omega F + \psi = F$$

$$x+p = -p \Rightarrow x = -p - \omega \rightarrow F(-p) = 1 - \omega(-p) + \psi = 1 + \omega p + \psi = V F$$

$$\rightarrow F(F) \times F(-p) = \sqrt{1 + \omega p}$$

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$$F \cos^p x + \omega \cos u = p, \omega \Rightarrow \cos u = t \Rightarrow F t^p + \omega t - p, \omega = 0 \xrightarrow{\omega=0} 1 t^p + 1 \omega t - V = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-10 \pm \sqrt{100 + 4 \times 1 \times 1}}{2 \times 1} = \frac{-10 \pm 11}{2} = \frac{-10 + 11}{2} = \frac{1}{2} = t = \cos u \quad \left\{ \begin{array}{l} -1 \leq \cos u \leq 1 \\ \cos u = \frac{1}{p} \end{array} \right.$$

$$\frac{-10 - 11}{2} = \frac{-21}{2} = -10.5 = t = \cos u$$

$$\sqrt{p} \Rightarrow \tan u = \frac{\sqrt{p}}{1} \Rightarrow \tan^p u = p$$

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