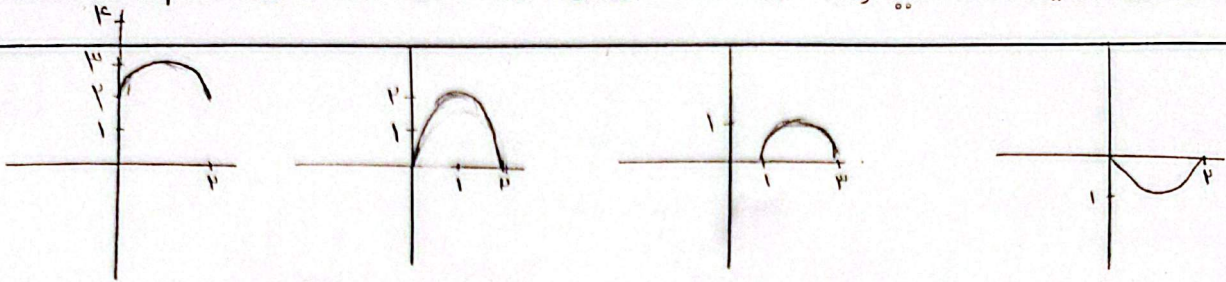


نام و نام خانوادگی دیان خانم پاسخنامه تشریحی تکلیف شماره ۵ کلاس دهم A



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

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$$\begin{aligned}
 \frac{x^2 - 3x + 2}{x-5} < 0 & \quad \frac{(x-2)(x-1)}{1} < 0 & \quad \begin{array}{c} 1 \quad 2 \quad 5 \\ - \quad + \quad - \quad + \end{array} & \quad D_f = (-\infty, 1) \cup (2, 5) \\
 \frac{x^2 - 1}{x^2 - 4x + 5} \geq 0 & \quad \frac{(x-1)(x+1)}{1} \geq 0 & \quad \begin{array}{c} -1 \quad 1 \quad 5 \\ + \quad - \quad - \quad + \end{array} & \quad D_f = (-\infty, 1] \cup (5, +\infty)
 \end{aligned}$$

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$$\begin{aligned}
 y = \sqrt{\frac{x^3 - 1}{x^3 - x}} & \geq 0 & \quad \frac{\frac{1}{(x-1)(x^2+x+1)}}{\frac{x}{(x-1)(x+1)}} \geq 0 & \quad \begin{array}{c} 1 \quad 0 \quad 1 \\ + \quad - \quad + \end{array} & \quad D_f = (-\infty, -1) \cup (-1, 1) \cup (1, +\infty) \\
 y = \sqrt{\frac{x^2 - 14}{x^2 - 5x + 4}} & \geq 0 & \quad \frac{\frac{x}{(x-4)(x+4)}}{\frac{(x-4)(x-1)}{1}} \geq 0 & \quad \begin{array}{c} -4 \quad 1 \quad 4 \\ + \quad - \quad + \end{array} & \quad D_f = (-\infty, -4] \cup (1, 4) \cup (4, +\infty)
 \end{aligned}$$

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$$\begin{aligned}
 y = \sqrt{4 - \sqrt{4 - x}} & \quad \sqrt{\frac{4 - \sqrt{4 - x}}{4 - \sqrt{4 - x}}} & \quad \begin{array}{c} 4 \quad 4 \\ - \quad + \end{array} & \quad D_f = [-14, 4] \\
 4 - x \geq 0 & \quad x \leq 4
 \end{aligned}$$

$$\begin{aligned}
 y = \sqrt{3 - \sqrt{3 - x}} & \quad D_f = [2, 11] \\
 3 - x \geq 0 & \quad x \geq 3 \\
 3 - \sqrt{3 - x} \geq 0 & \quad \sqrt{3 - x} \leq 3 \quad 3 - x \leq 9 \quad x \geq -6 \\
 \sqrt{3 - x} \leq 3 & \quad 3 - x \leq 9 \quad x \geq -6
 \end{aligned}$$

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$$y = \sqrt{\varepsilon - \mu^2}, \sqrt{\mu^2 - \varepsilon} \quad \begin{array}{c} -\sqrt{\varepsilon} \quad +\sqrt{\varepsilon} \\ - \quad + \quad - \end{array} \quad D_f = [-\sqrt{\varepsilon}, \sqrt{\varepsilon}]$$

$$y = \sqrt{\mu^2 - 9} \quad \begin{array}{c} -\mu \quad \mu \\ + \quad - \quad + \end{array} \quad D_f = (-\infty, -3] \cup [3, +\infty)$$

$$y = \sqrt{\frac{|m|+1}{|m|-3}} \rightarrow + \quad |m| \neq 3 \quad D_f = (-\infty, -3) \cup (3, +\infty) \cup (3, -3)$$

$$y = \sqrt{\frac{\sqrt{m}+1}{\sqrt{m}-3}} \quad \begin{array}{l} \sqrt{m}-3 \neq 0 \\ \sqrt{m} \neq 3 \\ m \neq 9 \end{array} \quad D_f = (-\infty, 9) \cup (9, +\infty)$$

$$\text{a)} \quad y = \frac{\sin x}{\mu \cos x - 1} \quad \begin{array}{l} \mu \cos x - 1 \neq 0 \\ \mu \cos x \neq 1 \\ \cos x \neq \frac{1}{\mu} \end{array} \quad D_f = \mathbb{R} - \left\{ \mu k\pi \pm \frac{\pi}{\mu} \right\}$$

$$\text{b)} \quad y = \frac{\cos x + 1}{\mu \sin x + 1} \quad \begin{array}{l} \mu \sin x + 1 \neq 0 \\ \mu \sin x \neq -1 \\ \sin x \neq -\frac{1}{\mu} \end{array} \quad D_f = \mathbb{R} - \left\{ k\pi - \frac{\pi}{\mu} \right\}$$

$$\text{c)} \quad y = \frac{\tan x + \mu}{\cot x - 1} \quad \begin{array}{l} \sin x \neq 0 \\ \cos x \neq 0 \\ \cot x - 1 \neq 0 \\ \cot x \neq 1 \end{array} \quad \begin{array}{l} \sin x \neq -\frac{1}{\mu} \\ \cot x \neq 1 \end{array} \quad D_f = \mathbb{R} - \left\{ k\pi, \frac{k\pi}{\mu}, k\pi + \frac{\pi}{\mu} \right\}$$

$$\text{d)} \quad y = \frac{\sin x + 1}{\mu \sin x - \mu} \quad \begin{array}{l} \mu \sin x - \mu \neq 0 \\ \mu \sin x \neq \mu \\ \sin x \neq 1 \end{array} \quad D_f = \mathbb{R} - \left\{ \mu k\pi \pm \frac{\pi}{\mu}, \mu k\pi \pm \frac{\pi}{\mu} \right\} \quad D_f = \mathbb{R} - \left\{ k\pi \pm \frac{\pi}{\mu} \right\}$$

$$y = \frac{1}{\sqrt{\mu|x-2| - \frac{1}{\mu}}} \quad \begin{array}{l} \mu|x-2| - \frac{1}{\mu} > 0 \\ \mu|x-2| > \frac{1}{\mu} \\ |x-2| > \frac{1}{\mu} \end{array} \quad D_f = (-\infty, \frac{1}{\mu}) \cup (\frac{1}{\mu}, +\infty)$$

$$\text{a)} \quad y = \sqrt{\varepsilon - \mu|x|} \quad \begin{array}{l} \varepsilon - \mu|x| \geq 0 \\ \mu|x| \leq \varepsilon \\ -\varepsilon/\mu \leq x \leq \varepsilon/\mu \end{array} \quad D_f = [-\varepsilon/\mu, \varepsilon/\mu]$$

$$\text{b)} \quad y = \sqrt{\frac{|m|}{|m|}} \quad |m| \neq 0 \quad D_f = (-\infty, 0) \cup (0, +\infty)$$