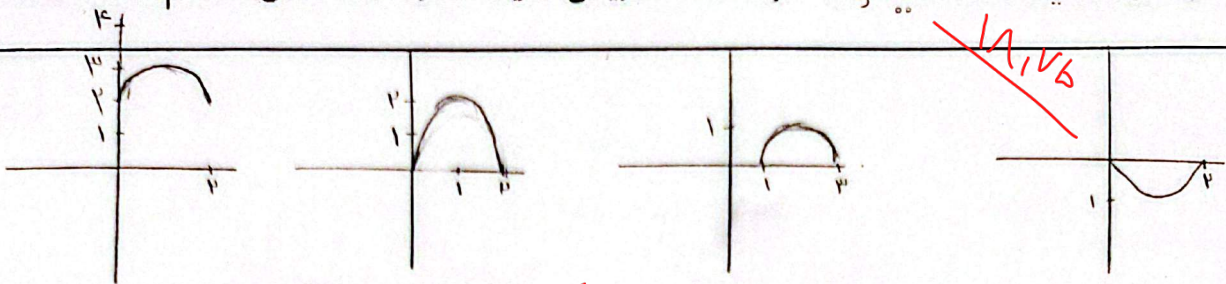


نام و نام خانوادگی دیان خانم پاسخنامه تشریحی تکلیف شماره ۵ کلاس دهم A



(۲) ✓

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

(۲) ✓

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

(۲) ✓

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

(۲) ✓

$$y = \sqrt{4 - \sqrt{4 - x}} \quad \sqrt{\frac{4 - \sqrt{4 - x}}{4 - \sqrt{4 - x}}} \quad \begin{array}{c} -4 \quad 4 \\ - \quad + \end{array} \quad D_f = [-4, 4]$$

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

(۲) ✓

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

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

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

$$R - \{ \pm 3 \}$$

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

$$[9, +\infty) - \{ 3 \}$$

رابطان باید تعریف شود

$$a) \quad y = \frac{\sin x}{2 \cos x - 1} \quad \begin{array}{l} 2 \cos x - 1 \neq 0 \\ 2 \cos x \neq 1 \\ \cos x \neq \frac{1}{2} \end{array} \quad D_f = \mathbb{R} - \left\{ x \mid x = \pm \frac{\pi}{3} \right\}$$

$$R - \left\{ x \mid x = \frac{\pi}{3}, \frac{5\pi}{3}, \frac{7\pi}{3}, \frac{11\pi}{3} \right\}$$

$$b) \quad y = \frac{\cos x + 1}{2 \sin x + 1} \quad \begin{array}{l} 2 \sin x + 1 \neq 0 \\ 2 \sin x \neq -1 \\ \sin x \neq -\frac{1}{2} \end{array} \quad D_f = \mathbb{R} - \left\{ x \mid x = \frac{7\pi}{6}, \frac{11\pi}{6} \right\}$$

$$c) \quad y = \frac{\frac{\sin x}{\cos x} + \tan x + 2}{\cot x - 1} \quad \begin{array}{l} \frac{\sin x}{\cos x} \neq -1 \\ \sin x \neq -\cos x \\ \sin x \neq -\frac{1}{\sqrt{2}} \end{array} \quad D_f = \mathbb{R} - \left\{ x \mid x = \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}, \frac{11\pi}{4} \right\}$$

$$d) \quad y = \frac{\sin x + 1}{2 \sin x - 3} \quad \begin{array}{l} 2 \sin x - 3 \neq 0 \\ 2 \sin x \neq 3 \\ \sin x \neq \frac{3}{2} \end{array} \quad D_f = \mathbb{R} - \left\{ x \mid x = \frac{\pi}{2}, \frac{3\pi}{2} \right\}$$

$$y = \frac{1}{\sqrt{2|x-2| - \frac{1}{2}}} \quad \begin{array}{l} 2|x-2| - \frac{1}{2} > 0 \\ 2|x-2| > \frac{1}{2} \\ |x-2| > \frac{1}{4} \end{array} \quad D_f = (-\infty, \frac{7}{4}) \cup (\frac{9}{4}, +\infty)$$

$$a) \quad y = \sqrt{\varepsilon - 2|m|} \quad \begin{array}{l} \varepsilon - 2|m| \geq 0 \\ 2|m| \leq \varepsilon \\ |m| \leq \frac{\varepsilon}{2} \end{array} \quad D_f = [-\frac{\varepsilon}{2}, \frac{\varepsilon}{2}]$$

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

$$R - \{ 0 \}$$