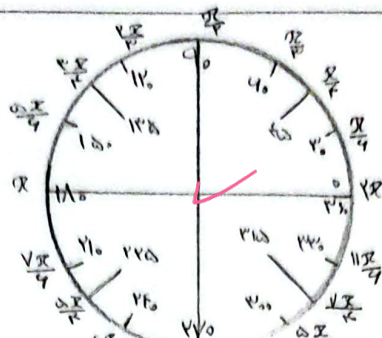


نام و نام خانوادگی ... آ. ا. ...		پاسخنامه تشریحی تکلیف شماره ۲۰ ... کلاس: ...	
$\tan 0, \tan 45, \tan 135, 0$ $\tan 30, \tan 150 = \frac{\sqrt{3}}{3}$ $\tan 45, \tan 225 = 1$ $\tan 60, \tan 240 = \sqrt{3}$ $\tan 90, \tan 270 =$ تعریف نشده! $\tan 135, \tan 315 = -\sqrt{3}$ $\tan 150, \tan 330 = -\frac{\sqrt{3}}{3}$			
$\frac{1}{r} - 1 - r =$ $\frac{1}{r} - r = -\frac{r^2}{r}$		$\frac{\sqrt{3}}{r} + \frac{\sqrt{3}}{r} + \frac{\sqrt{3}}{r} =$ $\frac{3\sqrt{3}}{r}$	
الف)		ب)	
$x = a$ $a^2 + 4a - 2a + a + 2$ $a^2 + a - 2 = 0 \rightarrow (a+2)(a-1) \begin{cases} a = -2 \\ a = 1 \end{cases}$ $f(1) = x^2 + 4x = 1 + 4 = 5$		ج)	
$f(x) = \begin{cases} 2x^2 - b, & x+1 \geq 2 \\ a+2x, & -3 \leq x < -1 \end{cases} \begin{cases} x \geq 1 \\ x < -3 \end{cases}$ $f(-3) = 11 - b = a - 4 \Rightarrow a + b = 24$		د)	
$y = \frac{1}{x^3 - 4x^2} = \frac{1}{x^2(x-4)}$ $D_f = \mathbb{R} - \{0, 4\}$		$y = \frac{1}{2x^3 + 4x^2 + 2x + 4}$ $2x^3 + 4x^2 + 2x + 4 = x^2(2x+4) + (2x+4)$ $(2x+4)(\frac{x^2}{-2} + 1)$ $D_f = \mathbb{R} - \{-2\}$	
الف)		ب)	

$y = \sqrt{x^2 - 1} + \sqrt{x - 2}$ $\sqrt{(x+1)(x-1)} + \sqrt{x-2}$ $\frac{-1}{+1-1+} \wedge \frac{2}{-1+} \rightarrow Df = [2, \infty)$ الذ	$y = \frac{\sqrt{4-3x}}{\sqrt{4x-3}}$ $3x \leq 4 \rightarrow x \leq \frac{4}{3}$ $4x > 3 \rightarrow x > \frac{3}{4}$ $Df = \left(\frac{3}{4}, \frac{4}{3}\right]$ ب)	٤
$\sqrt{4x-a} + \sqrt{b-3x} \rightarrow x=2$ $12-a=0 \Rightarrow a=12$ $b-4=0 \Rightarrow b=4$ $\frac{b}{a} = \frac{1}{3}$ الذ	$y = \sqrt{\frac{x^3 - 2x^2 - 4x + 4}{x^3 + 2x^2 - 4x - 4}}$ $\frac{(x-1)(x^2-x-4)}{(x+1)(x^2-x-4)} = \frac{(x-1)(x-2)(x+2)}{(x+1)(x-2)(x+2)}$ $\frac{-2}{+2} - \frac{2}{-2} - \frac{1}{+1} + \frac{2}{+2}$ $Df = (-\infty, -2) \cup \left(\frac{1}{2}, 2\right) \cup (2, \infty)$ ب)	٧
$y = \sqrt{2[x] - 5}$ $2[x] \geq 5$ $[x] \geq \frac{5}{2}$ $Df = [2, +\infty)$ الذ	$y = \sqrt{2[x] - 5}$ $2[x] \geq 5$ $[x] \geq \frac{5}{2}$ $[x] \geq 3$ $Df = [3, +\infty)$ ب)	٩
$y = \sqrt{\frac{x+1}{ x-2 }} + \sqrt{\frac{4-x}{x^2+2x+4}}$ $\frac{x+1}{ x-2 } = \frac{-1}{+1-1+}$ $\frac{x+1}{ x-2 } = \frac{-1}{+1-1+}$ $Df = [-1, 3] \cup (4, 9]$ الذ	$y = \sqrt{[x] - 4} + \sqrt{2 - [x]}$ $[x] \geq 4 \rightarrow x \geq 4 \wedge \rightarrow \emptyset$ $[x] \leq 2 \rightarrow x < 3$ ب)	١٠