

۱۲,۷۵

نام و نام خانوادگی کلاس پاسخنامه تشریحی تکلیف شماره کلاس

(الف) $x^3 - 2x^2 + 3x = 15$ $DF = IR - \{1, 1.5, 2.5\}$ ✓ $(x-1)(x-5)(x-3) \neq 0$	(ب) مجموع ضرایب توان زوج برابر شود $DF = IR - \{-1, \frac{2}{3}, 2\}$ ✓ $(x+1)(x-2)(x+2) \neq 0$	۱		
(الف) $x - \sqrt{x-2} \neq 0 \Rightarrow x \neq \sqrt{x-2} \Rightarrow x^2 \neq x-2$ $\Rightarrow x^2 + 2x - 2 \neq 0 \Rightarrow (x+3)(x-1) \neq 0$ جواب زائد $DF = IR - \{2, 1\}$ $D = (-\infty, \frac{3}{2}] - \{1\}$ $3 - 2x > 0 \rightarrow x < \frac{3}{2}$	(ب) $x = \sqrt{x-2} \Rightarrow x \neq \sqrt{x-2} \Rightarrow x^2 \neq x-2$ $x^2 - 3x + 2 \neq 0 \Rightarrow (x-1)(x-2) \neq 0$ (۱) $DF = IR - \{1, 2\}$ $3x - 2 > 0 \rightarrow x > \frac{2}{3}$ $D = [\frac{2}{3}, +\infty) - \{1, 2\}$	۲		
(الف) $2\cos x - 1 \neq 0$ $2\cos x \neq 1$ $\cos x \neq \frac{1}{2}$ $2k\pi \pm \frac{\pi}{3}$ $DF = R - \{k\pi \pm \frac{\pi}{3}\}$	(ب) $\sin x \neq -\frac{1}{2}$ $DF = R - \{k\pi + \frac{5\pi}{6}, k\pi + \frac{7\pi}{6}\}$ ✓ (۱.۵)	(ج) $\cot x \neq 1$ $DF = R - \{k\pi + \frac{\pi}{4}, k\pi + \frac{5\pi}{4}\}$ $\sin x \neq \frac{\sqrt{2}}{2}$ $DF = IR - \{k\pi + \frac{\pi}{4}, k\pi + \frac{3\pi}{4}, k\pi + \frac{5\pi}{4}, k\pi + \frac{7\pi}{4}\}$ ✓	۳	
(الف) $(x-1)(x-2) > 0$ $\frac{1}{+} \frac{2}{-} \frac{3}{+}$ $DF = (-\infty, 1) \cup (2, \infty)$ ✓	(ب) $(x-1)(x-5) < 0$ $\frac{1}{-} \frac{5}{+}$ $DF = (1, 5)$ ✓	(ج) $(x+1)(x+5)$ $\frac{-5}{+} \frac{-1}{-}$ $DF = (-\infty, -5] \cup [-1, \infty)$ ✓ (۲)	(د) $(x-4)(x-1)$ $\frac{1}{-} \frac{4}{+}$ $DF = [1, 4]$ ✓	۴
(الف) $\frac{(x-1)(x-2)}{x-5} < 0$ $\frac{1}{+} \frac{2}{-} \frac{5}{+} \Rightarrow (-\infty, +1) \cup (2, 5)$ ✓	(ب) $(x-5)(x-1) > 0$ $\frac{x^2-1}{x-5} \rightarrow x=1$ $\frac{-1}{+} \frac{1}{-} \frac{5}{+}$ $DF = (-\infty, 1] \cup (5, \infty)$ ✓ (۱.۷۵)	۵		

$\frac{x^r - f(x) + v}{x^r - 1} \geq 0$ $(x-r)(x-1)$ $\frac{1}{1} \quad \frac{r}{1}$ $\frac{-1}{1} \quad \frac{1}{1}$ $DF = [r, \infty)$ ✓	$x^r - 1 > 0$ $x^r > 1$ $x > 1$ $PF = \mathbb{R} - \{-1\}$ (Y)	6
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$x^r - rx > 0$ $x(x-r) > 0$ $\frac{1}{1} \quad \frac{r}{1}$ $DF = (-\infty, 0) \cup (r, \infty)$ ✓ (NO)	$(1-r)x > 0 \rightarrow r > x$ $ x-r > 0 \Rightarrow x > r$ $ x - r^2 = 0 \Rightarrow x = r^2$ $x \neq \pm r$ $PF = (r, r) \cup (-r, r) \setminus \{r, -r\}$ ✓	$\frac{(x-r)(x-r)}{(x-r)} > 0$ $\frac{r}{1} \quad \frac{r}{1}$ $\frac{-1}{1} \quad \frac{1}{1}$ $DF = (r, 1) \cup (-1, r)$ ✓ $PF = (r, 1) \cup (-1, r)$ ✓	$x^r - rx > 0 \rightarrow r > x$ $x > 0$ $DF = (-\infty, r) \cup (r, \infty)$ $PF = \mathbb{R} - \{r\}$ $DF = \mathbb{R} - \{r\}$ ✓	7
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$x^r + x > 0$ $x(x+1) > 0$ $\frac{-1}{1} \quad \frac{0}{1} \quad \frac{1}{1}$ $\frac{+}{1} \quad \frac{-}{1} \quad \frac{+}{1}$ ✓	<table border="1"> <tr> <td>$x^r - x$</td> <td>$\frac{-1}{1}$</td> <td>$\frac{1}{1}$</td> </tr> <tr> <td>$x^r + x$</td> <td>$\frac{+}{1}$</td> <td>$\frac{+}{1}$</td> </tr> <tr> <td>$PF(x)$</td> <td>$\frac{+}{1}$</td> <td>$\frac{+}{1}$</td> </tr> </table> (YES)	$x^r - x$	$\frac{-1}{1}$	$\frac{1}{1}$	$x^r + x$	$\frac{+}{1}$	$\frac{+}{1}$	$PF(x)$	$\frac{+}{1}$	$\frac{+}{1}$	8
$x^r - x$	$\frac{-1}{1}$	$\frac{1}{1}$									
$x^r + x$	$\frac{+}{1}$	$\frac{+}{1}$									
$PF(x)$	$\frac{+}{1}$	$\frac{+}{1}$									

$y = \frac{\sqrt{x-f(x)}}{f(x)} \Rightarrow DF = (-x, -r) \cup (r, x) \cup \{-1\}$ $\frac{x-f(x)}{f(x)} > 0$ $\frac{-r}{1} \quad \frac{-1}{1} \quad \frac{r}{1} \quad \frac{r}{1}$ $\frac{-}{1} \quad \frac{+}{1} \quad \frac{-}{1} \quad \frac{+}{1}$ $DF = (-r, -1) \cup (r, r)$ $x = f(x) = 0 \rightarrow x = -r, r$ $x = f(x) = 0 \rightarrow x = f(x) \rightarrow x = -1, r$	9
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