

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره! کلاس: تاریخ:	
$3x^2 - 11x - 4 = 0 \Rightarrow x^2 - 11x - 4 = 0$ (ب) $(x-9)(x+1) = 0 \Rightarrow x = \frac{9}{2}, -\frac{1}{2}$ $\Rightarrow x = \frac{9}{2}, -\frac{1}{2}$	$4x^2 - 8x - 4 = 0 \Rightarrow x^2 - 2x - 1 = 0$ (الف) $(x-9)(x+1) = 0 \Rightarrow x = \frac{9}{4}, -\frac{1}{4} = \frac{9}{4}, -\frac{1}{4}$
$2x^2 - 5x - 12 = 0 \Rightarrow x^2 - 5x - 6 = 0$ (ج) $(x-1)(x+1) = 0 \Rightarrow x = \frac{1}{2}, -\frac{1}{2}$ $x = \frac{1}{2}, -\frac{1}{2}$	$5x^2 - 2x - 3 = 0 \Rightarrow x^2 - 2x - 3 = 0$ (د) $(x-4)(x+2) = 0 \Rightarrow x = \frac{4}{2}, -\frac{2}{2} \Rightarrow$ $x = \frac{4}{2}, -\frac{2}{2}$
$2x^2 + 5x + 2 = 0$ (ب) $a+c = 5 \Rightarrow 2+c = 5 \Rightarrow c = 3, -1$ $\Rightarrow x = -1, -\frac{2}{2}$	$x^2 - 5x - 14 = 0$ (الف) $(x-7)(x+2) = 0 \Rightarrow x = 7, -2$
$4x^2 + 2x - 2 = 0$ (ب) $\Delta = b^2 - 4ac = 4 - 4 \times 4 \times (-1) = 16$ $x = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-2 \pm 4}{8} = \frac{-2+4}{8} = \frac{2}{8} = \frac{1}{4}$ $x = \frac{-2-4}{8} = \frac{-6}{8} = -\frac{3}{4}$	$x^2 + 2x + 3 = 0$ (د) $\Delta = b^2 - 4ac = 4 - 4 \times 1 \times 3 = -8$ $\Rightarrow \Delta < 0 \Rightarrow$ ریشه ندارد
$A = \{1, 2, 3\}, B = \{2, 3\} \quad A \times B - B^2 = ?$ $\{(1,2), (1,3), (2,2), (2,3), (3,2), (3,3)\} - \{(2,2), (2,3), (3,2), (3,3)\} =$ $\{(1,2), (1,3)\} = A \times B - B^2$	
الف) $f(x) = \{(x, m^2), (2, 1), (-3, m), (-2, m), (x^2, m+2), (m, 2)\}$ $(x, m^2) = (x, m+2) \Rightarrow m^2 = m+2 \Rightarrow m^2 - m - 2 = 0 \Rightarrow m = -1, 2$ $m = -1 \Rightarrow \{(2, 1), (2, 1), (-3, -1), (-2, -1), (x^2, 1), (-1, 2)\}$ $m = 2 \Rightarrow \{(x^2, 2), (2, 1), (-3, 2), (-2, 2), (x^2, 2), (2, 2)\}$ ب) $g(x) = \{(x, m^2), (2, 1), (m, 2), (x^2, m+2), (-2, m), (-1, 2)\}$ $m^2 = m+2 \Rightarrow m < -1 \rightarrow \{(x^2, 2), (-1, 2), (-1, 2)\}$ $m > 2 \rightarrow \{(x^2, 2), (2, 1)\}$	$m = -1$
$f(m) = \{(1, a^2), (1, a-2), (a^2, a+2)\}$ $a^2 = a-2 \Rightarrow a^2 - a + 2 = 0 \Rightarrow a = 1, 2$ $a = 1 \Rightarrow \{(1, 1), (1, 1), (1, 3)\} \Rightarrow \text{مطلوبه}$ $a = 2 \Rightarrow \{(1, 2), (1, 2), (4, 4)\} \Rightarrow$	$a = 2$

$$P(n) = \begin{cases} n^2 - 1 & n \leq 1 \\ an + b & 1 \leq n \leq r \\ n^r & n \geq r \end{cases}$$

$\Rightarrow n=1 \Rightarrow n^0-1 = a+b \Rightarrow 1-1 = a+b \Rightarrow a+b=0$
 $n=1 \text{ (b) } \Rightarrow a+b=0$
 $\Rightarrow n=2 \Rightarrow a^2+b = n^2 \Rightarrow 4a+b=1$
 $n=2 \text{ (b) } \Rightarrow 4a+b=1$

$\left. \begin{array}{l} a+b=0 \\ 4a+b=1 \end{array} \right\} \Rightarrow \begin{array}{l} a+b=0 \\ a+b=1 \end{array} \Rightarrow a=1 \Rightarrow b=-1$

$\boxed{a+b = -4\epsilon}$

$$P(n) = \begin{cases} 2n-2 & n \geq K \\ 4-2n & n \leq K \end{cases} \Rightarrow$$
 از آنجا که ما می‌خواهیم این عبارت یک تابع باشد پس برای $n=K$ خود صاف باشد باید مقدار یکسانی بدو (چون در بازه‌های $n \leq K$ و $n \geq K$) قرار دهیم.

$$\Rightarrow m = K \Rightarrow P_K - W = E - P_K \Rightarrow \omega K = V \Rightarrow K = \frac{V}{\omega} \quad (2)$$

$y^2 - 4y = n^2 - 4n + 4 \rightarrow y - 2 = n - 2$

c) $|x| + |y| = 3$
 $\rightarrow n=0 \quad |y|=e^{\frac{2\pi i k}{n}} \quad y=1$
 رسم شکل


ج) $|y| = \sqrt{1 - \cos x} \rightarrow x = 90^\circ \Rightarrow |y| = 1 \Rightarrow y = \pm 1$ ← ~~تبع~~ ~~نسبت~~

$\Rightarrow y'' + x^2 + x + 1 = 0 \Rightarrow y'' + (x+1)^2 = 0$

الف) $\sqrt{y} + n^2 = 2n^2 - 2 \Rightarrow \left. \begin{array}{l} \text{if } (n_1, y_1) \in F \\ \text{if } (n_2, y_2) \in F \end{array} \right\} \xrightarrow{\text{if } n_1 = n_2} \left. \begin{array}{l} \sqrt{y_1} = -n_1^2 + 2n_1 - 2 \\ \sqrt{y_2} = -n_2^2 + 2n_2 - 2 \end{array} \right\} \Rightarrow$
 $\sqrt{y_1} = \sqrt{y_2} \Rightarrow |y_1 - y_2| \rightarrow \sqrt{0}$

ب) $y''' + \lambda y = 0$ $\xrightarrow{\text{if } \lambda = \lambda_r}$ $y_1''' + \lambda y_1 = y_r''' + \lambda y_r \Rightarrow y_1''' - y_r''' + \lambda y_1 - \lambda y_r = 0$

$(y_1 - y_r) (y_1^2 + y_1 y_r + y_r^2 + \gamma) = 0 \quad \begin{cases} y_1 = y_r \checkmark \\ y_1 = -\frac{y_r \pm \sqrt{y_r^2 - 4\gamma}}{2} \end{cases}$
 $\rightarrow |y_1 - y_r| \Rightarrow \sqrt{4\gamma}$

الف) $x \sin y = y \sin x \Rightarrow x=0 \rightarrow y \times 0 = \sin y \times 0$ متحقق

$\text{Sing} \rightarrow \text{مستنداتی که سند داشته باشند}$
 $X \rightarrow \text{نام}$

$$\Rightarrow \sqrt{\frac{y}{x}} + \sqrt{\frac{x}{y}} = r \quad \frac{(\frac{y}{x})^r}{\frac{y}{x}} + \frac{(\frac{x}{y})^r}{\frac{x}{y}} = r \Rightarrow \frac{y}{x} + \frac{x}{y} = r$$

$$\frac{y^r + x^r}{xy} = r \Rightarrow (y-x)^r = \dots \Rightarrow \boxed{y=x} \rightarrow \boxed{\sqrt{e \cdot r}}$$

$y \neq x$ یادت نره!

(۱۰-ب) $\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2$

این عبارت تنها زمانی برقرار است که $\sqrt{\frac{x}{y}} = 1$ باشد پس

$\sqrt{\frac{x}{y}} = 1 \leadsto \frac{x}{y} = 1 \leadsto x = y$ و $(x, y \neq 0)$

