

۱۹۱۵ آزمون

نام و نام خانوادگی پاسخنامه تشریحی تکلیف شماره کلاس

۱) $x^2 - 5x - 14 = 0 \rightarrow x^2 - 5x - 7 \times 2 = 0 \rightarrow (x-7)(x+2) \rightarrow x = 7 \vee x = -2$

۲) $3x^2 - 11x - 2 = 0 \rightarrow x^2 - 11x \times \frac{1}{3} - \frac{2}{3} = 0 \rightarrow (x-12)(x+1) \rightarrow x = 12 \vee x = -1$

۳) $(x^2 - 4x - 12) = 0 \rightarrow x^2 - 4x - 12 \times \frac{1}{4} = 0 \rightarrow (x-6)(x+2) \rightarrow x = 6 \vee x = -2$

۴) $(x^2 - 5x + 6) = 0 \rightarrow x^2 - 5x + 2 \times 3 = 0 \rightarrow (x-1)(x+3) \rightarrow x = 1 \vee x = -3$

۱) $x^2 - 5x - 14 = 0 \rightarrow (x-7)(x+2) \rightarrow x = 7 \vee x = -2$

۲) $x^2 + 5x + 6 = 0 \rightarrow x^2 + 5x + 2 \times 3 = 0 \rightarrow (x+2)(x+3) \rightarrow x = -2 \vee x = -3$

۳) $x^2 + 12x + 20 = 0 \rightarrow \Delta = b^2 - 4ac \rightarrow \Delta = 12^2 - 4(1)(20) = 44 \rightarrow x = \frac{-12 \pm \sqrt{44}}{2}$

۴) $3x^2 + 13x - 10 = 0 \rightarrow 3x^2 - 5(2x) - 10 = 0 \rightarrow x = \frac{-2 \pm \sqrt{14}}{3}$

$A \times B - B^2 = ?$

① $A \times B \rightarrow \{(1,2)(2,3)\}$

② $B^2 \rightarrow \{(2,3)(2,3)(3,4)(3,4)\}$

$\rightarrow \text{فایده ندارد} \rightarrow \{(1,2)\}!$

۱) $f(x) = x^2 - m + 2 \rightarrow x^2 - m - 2 = 0 \rightarrow (x-2)(x+1) = 0 \rightarrow x = 2 \vee x = -1$

if $m = 2 \times$

۲) $x^2 = m + 2 \rightarrow m = 2 \vee m = -1$

$\begin{cases} m = 2 \times \\ m = -1 \times \end{cases}$

$x^2 = 3x - 2 \rightarrow x^2 - 3x + 2 = 0 \rightarrow (x-2)(x-1) \rightarrow x = 2 \vee x = 1$

$\checkmark a = 2 \rightarrow (1,4)(1,1)(4,1)$

$\checkmark a = 1 \rightarrow (1,1)(1,1)(1,5) \times$

اولی در $a = 1 \Rightarrow \frac{1}{r} = a + b \rightarrow a + b = 0$
 $\rightarrow a = -b$

دومی در $\Rightarrow 2a + b = 1$
 $a = 2 \Rightarrow 2 \times (-b) + b = 1 \rightarrow -2b + b = 1 \rightarrow b = -1$
 $a = -1$
 $\rightarrow a \times b = (-1) \times (-1) = 1$

ثالثی $a = k$ می باشد

$a = k \rightarrow 2k - r = 1 - 2k$

$\rightarrow 2k = 1 \rightarrow k = \frac{1}{2}$

اولی $a = 3 \rightarrow y^2 - 4y = 0 \rightarrow y(y - 4) = 0$
 $y = 0$ یا $y = 4$
 $y^2 - 4 = 0 \rightarrow y^2 = 4 \rightarrow \pm 2 \rightarrow x$

ب) $a = 0 \rightarrow |y| = r \rightarrow y = \pm r$

ج) $y = \pm \sqrt{1 - \cos 2\theta} \rightarrow a = \pi \rightarrow y = \pm \sqrt{r}$

د) $y^2 + (a+1)^2 = 0 \rightarrow y = 0, a = -1$

اولی $\sqrt{y} = ra - r - a^2 \rightarrow \begin{cases} \sqrt{y_1} + a^2 = ra - r \\ \sqrt{y_2} + a^2 = ra - r \end{cases} \rightarrow \sqrt{y_1} = \sqrt{y_2} + a^2$
 $\rightarrow \sqrt{y_1} = \sqrt{y_2} \rightarrow y_1 = y_2$

ب) $y^2 + ry = a^2 \rightarrow \begin{cases} y_1^2 + ry_1 = a^2 \\ y_2^2 + ry_2 = a^2 \end{cases} \rightarrow y_1^2 - y_2^2 + r(y_1 - y_2) = 0$
 $(y_1 - y_2)(y_1 + y_2 + r) = 0$
 $y_1 - y_2 = 0 \rightarrow y_1 = y_2$

اولی $a = 0 \rightarrow \cos \sin y = \cos \sin 0 \rightarrow 0 = 0$

ب) $\sqrt{\frac{a}{y}} = 2 \rightarrow 2 + \frac{1}{2} = r \sim 2^2 + 1 = r^2 \rightarrow 2^2 - 2 \times 2 + 1 = 0$
 $(2-1)(2-1) = 0$
 $\rightarrow (2-1)^2 = 0$
 $\rightarrow 2 = 1$

$\Rightarrow \sqrt{\frac{a}{y}} = 1 \rightarrow \frac{a}{y} = 1 \rightarrow a = y$

$$۳) A \times B = \{(1,2)(1,3)(\cancel{2,2})(\cancel{2,3})(\cancel{3,2})(\cancel{3,3})\}$$

$$B^2 = B \times B = \{(\cancel{2,2})(\cancel{2,3})(\cancel{3,2})(\cancel{3,3})\}$$

$$A \times B - B \times B = \{(1,2)(1,3)\}$$

الته مرشد از اول بگیم زحمتهای که دایره‌ی ارشدن! است فقط قابل تبدیل هسته!

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

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

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

