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پاسخنامه تشریحی تکلیف شماره ۱۰۰ کلاس: دوازدهم

معادله: $(a+b)^2 = a^2 + b^2 + 2ab$

$n^2 - 4n + 4 = 0 \Rightarrow n^2 - 4n + 4 = 1 \Rightarrow (n-2)^2 = 1$

$n^2 + 4n + 4 = 0 \Rightarrow n^2 + 4n + 4 = 9$

$n-2=1 \Rightarrow n=3$
 $n-2=-1 \Rightarrow n=1$

$(n+2)^2 = 9 \Rightarrow n+2=3 \Rightarrow n=1$
 $n+2=-3 \Rightarrow n=-5$

$n^2 - 6n + 9 = 0 \Rightarrow (n-3)(n-3) = 0$

$n^2 - 6n - 16 = 0 \Rightarrow (n-8)(n+2) = 0$

$n^2 - 3n - 4 = 0 \Rightarrow \frac{3 \pm \sqrt{9 - (-12)}}{2} = \frac{3 \pm \sqrt{21}}{2}$

روش ریشه:
 $\frac{-b \pm \sqrt{\Delta}}{2a} \rightarrow \frac{b^2 - 4ac}{4a^2}$

$kn^2 - 6n + \frac{1}{k} = 0 \Rightarrow \frac{6 \pm \sqrt{36 - 4}}{2k} = \frac{6 \pm \sqrt{32}}{2k}$

$n^2 - 3n + 2 = 0 \Rightarrow (n-1)(n-2) = 0$

معادله: $kn^2 + n - 3 = 0 \Rightarrow n^2 + n - 3k = 0$
 $(n+3)(n-2) = 0 \Rightarrow n = -3, n = 2$

$2n^2 - 12n + 16 = 0 \Rightarrow n^2 - 6n + 8 = 0 \Rightarrow (n-4)(n-2) = 0$

$kn^2 - 12n + 16 = 0 \Rightarrow n^2 - 12n + 16 = 0$
 $(n-4)(n-8) = 0$

$n=1 \leftarrow n=2 \leftarrow n=4 \leftarrow n=8$

$$\Delta = b^2 - 4ac$$

الف)

$$a^2 - (4 \times (-3) \times (-1)) = 13$$

$$b^2 - (4 \times 2 \times 2) = 0$$

ب)

$$(-1)^2 - (4 \times 2 \times 2) = -15$$

$$(-1)^2 - (4 \times 2 \times 1) = -7$$

$$2n^2 - 3n + a = 0 \quad \Delta = b^2 - 4ac$$

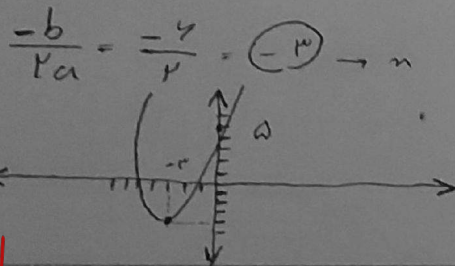
$$\Delta > 0 \Rightarrow b^2 - 4ac > 0 \Rightarrow 9 - 12a > 0 \Rightarrow \frac{9}{12} > a$$

$$\Delta = 0 \Rightarrow b^2 - 4ac = 0 \Rightarrow 9 - 12a = 0 \Rightarrow a = \frac{9}{12}$$

$$\Delta < 0 \Rightarrow b^2 - 4ac < 0 \Rightarrow 9 - 12a < 0 \Rightarrow a < \frac{9}{12}$$

$$\Delta \geq 0 \Rightarrow b^2 - 4ac \geq 0 \Rightarrow 9 - 12a \geq 0 \Rightarrow \frac{9}{12} \geq a$$

$$y = n^2 + 7n + a$$



$$y = (-3)^2 + (-12) + a = -3$$

$$y = -n^2 + 7n - 12$$

$$y = -n^2 + 7n - 12$$

$$\frac{-b}{2a} = \frac{-7}{-2} = 3.5 \rightarrow n = 3.5$$

$$y = -3^2 + 7 \times 3 - 12 = 3$$

$$a = 3 \leftarrow n = -3 \leftarrow (n+3)(n+1) \rightarrow n = -1 \rightarrow a = 1$$

$$k = -\frac{b}{a} = -\frac{-7}{1} = 7$$

$$p = \frac{c}{a} = \frac{-12}{1} = -12$$

$$n^2 - 3n - 4 = 0$$

$$a = 1$$

$$b = -3$$

$$c = -4$$

$$5^2 - 3 \times 5 = 10 \quad (-5)^2 - (3 \times (-5)) = 25$$

$$5^2 - 3 \times 5 \times (-4) = 25 + 60 = 85$$