

$$x^2 - 11x + 18 = 0$$

$$(x-4)(x-3) = 0 \quad \begin{cases} x=4 \\ x=3 \end{cases}$$

(الف)

9

$$x^2 + 3x - 18 = 0$$

$$(x-4)(x+3) = 0 \quad \begin{cases} x=4 \\ x=-3 \end{cases}$$

(ب)

$$a x^2 - 12x + 12 = 0$$

(الف)

$$x^2 - 12x + 12 = 0$$

$$(x-a)(x-v) = 0 \quad \begin{cases} x = \frac{a}{a} = 1 \\ x = \frac{v}{a} \end{cases}$$

$$3x^2 - 10x + 12 = 0$$

(ب)

$$x^2 - 10x + 12 = 0$$

$$(x-3)(x-v) = 0 \quad \begin{cases} x = \frac{3}{3} = 1 \\ x = \frac{v}{3} \end{cases}$$

9

$$2x^2 - 5x + 3 = 0$$

$$2x^2 + 5x + 3 = 0$$

$$2x^2 - 5x + 12 = 0$$

$$5x^2 + 12x + 9 = 0$$

$$x = \frac{5}{2} \rightarrow \text{جميع ضلوع مثلث}$$

$$x = \frac{5}{2} \rightarrow \text{جميع ضلوع مثلث}$$

$$x = \frac{5 \pm \sqrt{25 - 96}}{4}$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = 1$$

$$x = \frac{c}{a} = \frac{3}{2}$$

$$x = -1$$

$$x = \frac{-c}{a} = \frac{-3}{2}$$

$$x = \frac{5 \pm \sqrt{14}}{4}$$

$$x = \frac{5 + \sqrt{14}}{4}$$

$$x = \frac{5 - \sqrt{14}}{4}$$

$$x = \frac{-12 \pm \sqrt{144 - 180}}{10}$$

$$\Delta < 0$$

$$\text{لا يوجد حلا حقيقي}$$

9

$$x^2 - 13x - 12 = 0$$

$$S = 13 = -\frac{b}{a}$$

$$P = -12 = \frac{c}{a}$$

$$S = 13 \quad P = -12$$

$$S^2 - 4P = (-13)^2 - 4(-12) = 169 + 48 = 217$$

$$S^2 - 4SP = (-13)^2 - 4(-13)(-12) = 169 - 624 = -455$$

0, 1, 2, 3

$$\begin{pmatrix} 1 \\ 2 \end{pmatrix} + \begin{pmatrix} 3 \\ 4 \end{pmatrix} = ?$$

$$\begin{pmatrix} 1 \\ 2 \end{pmatrix} = \begin{pmatrix} 1 \\ 2 \end{pmatrix} = \frac{1 \times 1}{2} = \frac{1}{2}$$

$$\begin{pmatrix} 3 \\ 4 \end{pmatrix} = \frac{3 \times 4}{4} = 3$$

$$11 + 34 = 45$$

9

$$\begin{pmatrix} 3 \\ 4 \end{pmatrix} - \begin{pmatrix} 1 \\ 2 \end{pmatrix} = ?$$

$$\begin{pmatrix} 3 \\ 4 \end{pmatrix} = \frac{3 \times 4}{4} = 3$$

$$\begin{pmatrix} 1 \\ 2 \end{pmatrix} = \frac{1 \times 2}{2} = 1$$

$$11 - 34 = -23$$

10

تاریخ: ۱۷, ۱۸

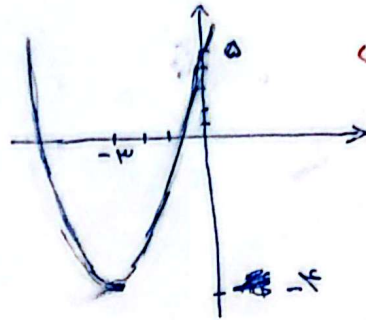
نام و نام خانوادگی: کلاس: پاسخنانه تشریحی تکلیف شماره: ۱

$$y = x^2 + 4x + 5$$

الف) $a > 0 \Rightarrow \text{Min}$: نفع نقه

$$\text{ext} \left| \frac{-b}{2a} = \frac{-4}{2} = -2 \right. \\ \left. 9 + (-16) + (5) = -2 \right.$$

$$\text{ext} \left| \begin{matrix} -3 \\ -5 \end{matrix} \right.$$

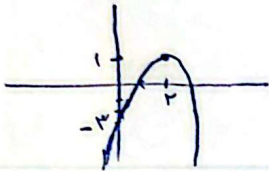


۲

$$y = -x^2 + 4x - 3$$

الف) $a < 0 \Rightarrow \text{Max}$

$$\text{ext} \left| \frac{-b}{2a} = 2 \right. \\ \left. -4 + 16 - 3 = 9 \right.$$



ب) برای اینک و معادله را مساوی صفر قرار دهیم:

$$\begin{aligned} -x^2 + 4x - 3 &= 0 \\ x^2 - 4x + 3 &= 0 \\ x^2 - 4x + 4 &= 1 \\ (x-2)^2 &= 1 \\ x-2 &= \pm 1 \\ x &= 3 \end{aligned}$$

۲

$$4x^2 - 3x + a = 0$$

الف) $\Delta < 0$

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

$$\Delta = 9 - 4a < 0 \Rightarrow a > \frac{9}{4}$$

$$\Delta = 9 - 4a < 0 \Rightarrow a < \frac{9}{4}$$

$$x = \frac{3 \pm \sqrt{9-4a}}{4}$$

ب) $\Delta = 0$

$$\Delta = 9 - 4a = 0$$

$$a = \frac{9}{4}$$

ج) $\Delta > 0$

$$\Delta = 9 - 4a > 0$$

$$a < \frac{9}{4}$$

$$9 - 4a > 0$$

د) $0 \leq \Delta < \infty$

$$\Delta = 9 - 4a$$

$$1 \leq a \leq -\infty$$

$$a = \frac{9}{4}$$

۱

$$x^2 - 2x - 1 = 0$$

الف)

$$(x^2 - 2x + 1) = 2$$

$$(x-1)^2 = 2$$

$$x-1 = \pm \sqrt{2} \Rightarrow \begin{cases} x = 1 + \sqrt{2} \\ x = 1 - \sqrt{2} \end{cases}$$

$$x^2 - x - 1 = 0$$

ب)

$$\left(x - \frac{1}{2}\right)^2 = \frac{5}{4}$$

$$\left(x - \frac{1}{2}\right)^2 = \frac{5}{4}$$

$$x - \frac{1}{2} = \pm \sqrt{\frac{5}{4}}$$

$$x = \frac{1 \pm \sqrt{5}}{2}$$

۲

$$x^2 - 2x - 1 = 0$$

الف)

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{2 \pm \sqrt{4 + 4}}{2} = \frac{2 \pm \sqrt{8}}{2} = 1 \pm \sqrt{2}$$

$$\frac{2(1 \pm \sqrt{2})}{2} = 1 \pm \sqrt{2} \Rightarrow \begin{cases} x_1 = 1 + \sqrt{2} \\ x_2 = 1 - \sqrt{2} \end{cases}$$

$$x^2 + x - 4 = 0$$

ب)

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-1 \pm \sqrt{1 + 16}}{2} = \frac{-1 \pm \sqrt{17}}{2}$$

$$x = \frac{-1 \pm \sqrt{17}}{2}$$

۳