

1910

نام و نام خانوادگی کلاس شماره تکلیف شماره 1

$$\min \left| \frac{-b}{2a} \right| = \Rightarrow \frac{-4}{2} = -2 \Rightarrow \min \left| \frac{-4}{2} \right| = 2$$

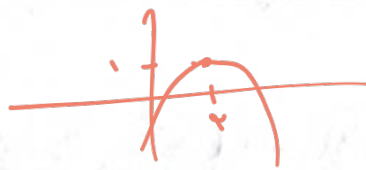


(الف)

(ب)

$$\max \left| \frac{-b}{2a} \right| = 2$$

$$\frac{-4}{2} = 1$$



نکته؟

(الف)

$$y=0 \Rightarrow -x^2+4x-3=0 \Rightarrow x=1 \text{ or } x=3$$

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

$$a+b+c=0 \Rightarrow \frac{c}{a} = \frac{-3}{-1} = 3$$

$$\begin{array}{c|c} \text{نقاط} & \\ \hline 1 & 0 \\ 3 & 0 \end{array}$$

$$x^2-3x+a=0 \Rightarrow c=a \Rightarrow \Delta = b^2-4ac \Rightarrow 9-4 \times 3 \times a = 9-12a$$

$$\Delta > 0 \Rightarrow 9-12a > 0 \Rightarrow 9 > 12a \Rightarrow a < \frac{3}{4}$$

$$\Delta = 0 \Rightarrow 9-12a = 0 \Rightarrow 9 = 12a \Rightarrow a = \frac{3}{4}$$

$$\Delta < 0 \Rightarrow 9-12a < 0 \Rightarrow a > \frac{3}{4}$$

$$\Delta \geq 0 \Rightarrow 9-12a \geq 0 \Rightarrow a \leq \frac{3}{4}$$

$$x^2-2x-1=0 \Rightarrow x^2-2x+1=2 \Rightarrow (x-1)^2=2 \Rightarrow x-1=\pm\sqrt{2}$$

$$\Rightarrow x=1+\sqrt{2} \text{ or } x=1-\sqrt{2}$$

$$x^2-x-1=0 \Rightarrow x^2-x-1+\frac{1}{4}=\frac{5}{4} \Rightarrow x^2-x+\frac{1}{4}=\frac{5}{4} \Rightarrow$$

$$(x-\frac{1}{2})^2=\frac{5}{4} \Rightarrow x-\frac{1}{2}=\pm\sqrt{\frac{5}{4}} \Rightarrow x=\frac{1+\sqrt{5}}{2} \text{ or } x=\frac{1-\sqrt{5}}{2}$$

$$\Delta = b^2-4ac \Rightarrow \Delta = 4+4=8$$

$$x = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-2 \pm \sqrt{8}}{2} = \frac{-2 \pm 2\sqrt{2}}{2} = -1 \pm \sqrt{2}$$

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

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

$$\Delta = 1+14=15$$

$$x = \frac{-1 \pm \sqrt{15}}{2}$$

$$x = \frac{-1 \pm \sqrt{15}}{2}$$

$$(x-v)(x-4)=0 \Rightarrow x=v \text{ و } x=4$$

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$$(x+v)(x-4)=0 \Rightarrow x=-v \text{ و } x=4$$

(ب)

$$\omega x^2 - 12x + v = 0 \Rightarrow x^2 - 12x + 2\omega = 0 \Rightarrow (x-v)(x-5)=0$$

(الف)

$$\Rightarrow x=v \text{ و } x=5 \Rightarrow x = \frac{\Delta}{a} = 1 \Rightarrow \frac{v}{\omega} = 1 \Rightarrow v = \omega$$

جواب های نهایی

$$2x^2 - 10x + v = 0 \Rightarrow x^2 - 5x + \frac{v}{2} = 0 \Rightarrow (x-v)(x-3) = 0$$

(ب)

$$x = \frac{v}{2} = 1 \Rightarrow v = 2$$

$$a+b+c=0 \Rightarrow 2-5+3=0 \Rightarrow x=1 \Rightarrow x=1 \text{ و } x=\frac{3}{2}$$

(الف)

$$a+c=b \Rightarrow 2+3=5 \Rightarrow x=-1 \Rightarrow x=-1 \text{ و } x=-\frac{3}{2}$$

(ب)

$$\Delta = b^2 - 4ac = 25 - 1 = 24 \Rightarrow x = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-5 \pm \sqrt{24}}{2}$$

(ج)

$$\Delta = b^2 - 4ac \Rightarrow v^2 - 4 \times 4 \times 9 = -9 \Rightarrow v = 3 \text{ و } v = -5$$

(د)

$$s = \frac{-b}{a} = \frac{3}{1} = 3 \text{ و } p = \frac{c}{a} = \frac{-2}{1} = -2$$

$$s^2 - 2p = (3)^2 - 2 \times (-2) = 9 + 4 = 13$$

(الف)

$$s^3 - 3sp = (3)^3 - 3 \times 3 \times (-2) = 27 + 18 = 45$$

(ب)

$$\left(\frac{v}{\omega}\right) = \frac{v \times 4}{2} = 21 \text{ و } \left(\frac{9}{2}\right) = \frac{9 \times 1}{2} = 37 \Rightarrow$$

(الف)

$$21 + 37 = 58$$

$$\left(\frac{9}{2}\right) = \frac{9 \times 4 \times 1}{2 \times 1} = 18 \text{ و } \left(\frac{1}{2}\right) = \frac{1 \times 4 \times 1}{2 \times 1} = 2 \Rightarrow 18 - 2 = 16$$

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