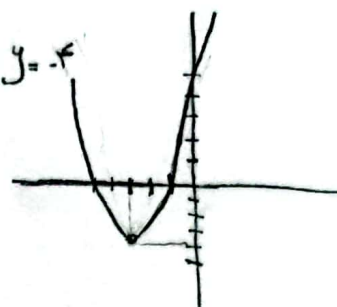


$$\text{ext} \begin{cases} \frac{-b}{2a} \rightarrow \frac{-4}{2} = -2 \\ \frac{-\Delta}{2a} = \frac{-14}{2} = -7 \end{cases} \quad \begin{cases} y = x^2 + 4x + 5 \\ y = 9 + 18 + 5 \Rightarrow y = 32 \end{cases}$$

$$\Delta = b^2 - 4ac = 16 - 20 = -4 \quad a > 0 \rightarrow \min$$

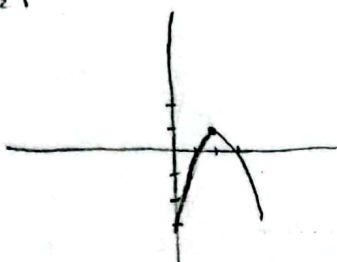
$$\frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-4 \pm \sqrt{-4}}{2} \rightarrow \frac{-4 \pm 2i}{2} = -2 \pm i$$



$$y = -x^2 + 4x - 3 \rightarrow -4 + 18 - 3 = 11$$

$$\text{ext} \begin{cases} \frac{-b}{2a} = \frac{-4}{-2} = 2 \\ y = 1 \end{cases}$$

$$a < 0 \rightarrow \max$$



نقطه برخورد منحنی با محور xها = ریشه عبارت

$$\Delta = b^2 - 4ac \rightarrow 16 - 12 = 4$$

$$\frac{-b \pm \sqrt{\Delta}}{2a} \rightarrow \frac{-4 \pm 2}{-2} = 1$$

$$\frac{-4 - 2}{-2} = \frac{-6}{-2} = 3$$

$$2x^2 - 3x + a = 0 \quad [a \leq 1]$$

$$\Delta \geq 0 \rightarrow b^2 - 4ac \rightarrow 9 - 12a \geq 0$$

$$a = \{a \mid a \leq 1, a \in \mathbb{R}\}$$

$$\Delta < 0 \rightarrow 9 - 12a < 0$$

$$a = \{a \in \mathbb{R} \mid a > 1, 12a > 9\}$$

$$\Delta = 0 \rightarrow b^2 - 4ac \rightarrow 9 - 12a = 0$$

$$a = \{1, 12a\}$$

$$\Delta \geq 0$$

$$a = \{a \leq 1, 12a \mid a \in \mathbb{R}\}$$

$$a = \{1, 12a\}$$

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

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

$$\text{ب) } x^2 - x - 1 = 0 \xrightarrow{+\frac{1}{4}} x^2 - x + \frac{1}{4} = \frac{5}{4} \rightarrow \left(x - \frac{1}{2}\right)^2 = \frac{5}{4} \rightarrow x - \frac{1}{2} = \pm\sqrt{\frac{5}{4}}$$

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

$$\text{الف) } x^2 - 2x - 1 = 0 \rightarrow \Delta = 4 + 4 = 8$$

$$\Delta = b^2 - 4ac \quad \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{2 \pm \sqrt{8}}{2} \rightarrow x = \frac{2 \pm 2\sqrt{2}}{2} = 1 \pm \sqrt{2}$$

$$\text{ب) } x^2 + x - 4 = 0 \rightarrow 1 + 16 = 17$$

$$\Delta = b^2 - 4ac \quad \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-1 \pm \sqrt{17}}{2}$$

$$\text{الف) } x^2 - 11x + 21 = 0 \rightarrow (x - 4)(x - 7) \rightarrow x = 4$$

$$\rightarrow x = 7$$

$$\text{ب) } x^2 + 3x - 21 = 0 \rightarrow (x + 7)(x - 4) \rightarrow x = -7$$

$$\rightarrow x = 4$$

$$\text{الف) } 5x^2 - 12x + 7 = 0 \rightarrow x^2 - 12x + 35 \rightarrow (x - 7)(x - 5) \rightarrow x = \frac{5}{5} = 1$$

$$\rightarrow x = \frac{7}{5} = \frac{7}{5}$$

$$\text{ب) } 4x^2 - 10x + 7 = 0 \rightarrow x^2 - 10x + 21 = 0 \rightarrow (x - 3)(x - 7) \rightarrow x = \frac{7}{3} = \frac{7}{3}$$

$$\rightarrow x = \frac{3}{3} = 1$$

$$\text{الف) } 2x^2 - 5x + 4 = 0 \rightarrow x^2 - 5x + 4 = 0 \rightarrow (x - 2)(x - 3) \rightarrow x = \frac{4}{3}$$

$$\text{ب) } 2x^2 + 5x + 4 = 0 \rightarrow x^2 + 5x + 4 = 0 \rightarrow (x + 2)(x + 3) \rightarrow x = \frac{3}{2} = \frac{3}{2}$$

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

$$\text{ج) } 2x^2 - 5x + 1 = 0 \rightarrow \Delta = b^2 - 4ac \rightarrow \Delta = 25 - 4 = 17$$

$$\frac{5 \pm \sqrt{17}}{4}$$

دلتا منفی شده پس این عبارت جوابی در مجموعه اعداد حقیقی ندارد.

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

$$\Delta = b^2 - 4ac \rightarrow 9 + 1 = 17$$

$$\frac{-b \pm \sqrt{17}}{2a} \rightarrow \frac{3 \pm \sqrt{17}}{2}$$

$$\text{الف) } S^2 - 2P, 9 + 4 = 13$$

$$\text{ب) } S^3 - 3SP, S(S^2 - 2P)$$

$$3(9 + 4) = 45$$

$$\text{محصول جمع} = \frac{-b}{a} = S = \frac{3}{1} = 3$$

$$\text{محصول ضرب} = \frac{c}{a} = P = \frac{-2}{1} = -2$$

$$\text{الف) } \binom{V}{\omega} + \binom{Q}{2} = \frac{V!}{\omega! 2!} = \frac{4! \times 4 \times V}{4! \times 4} = 21$$

$$\frac{4 \times 4^4}{4} = 34$$

$$34 + 21 = 55$$

$$\text{ب) } \binom{9}{3} - \binom{11}{4} = \frac{9 \times 8 \times 7}{3 \times 2 \times 1} - \frac{11 \times 10 \times 9 \times 8}{4 \times 3 \times 2 \times 1} = 14$$

$$\frac{11 \times 10 \times 9}{3} = 27$$

$$14 - 27 = -13$$

$$1 \quad \text{الف) } \Delta > 0 \rightarrow 1 - \Delta a > 0 \rightarrow \frac{1}{\Delta} > \frac{1 - \Delta a}{\Delta} \rightarrow$$

2

3

$$\boxed{\frac{1}{\Delta} > a}$$

4

$$5 \quad \text{ب) } \Delta = 0 \rightarrow \frac{1}{\Delta} = \frac{1 - \Delta a}{\Delta} \rightarrow \boxed{\frac{1}{\Delta} = a}$$

6

$$7 \quad \text{ج) } \Delta < 0 \rightarrow \frac{1}{\Delta} < \frac{1 - \Delta a}{\Delta} \rightarrow \boxed{\frac{1}{\Delta} < a}$$

8

$$9 \quad \text{د) } \Delta \neq 0 \rightarrow \frac{1}{\Delta} \geq \frac{1 - \Delta a}{\Delta} \rightarrow \boxed{\frac{1}{\Delta} \geq a}$$

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سوال ۳۳ راه حل ۲

اگر نمره این سوال را گرفتیم

نیازی به حل کردن این صفحه

نسبت