

$$x^2 - 4x + 8 + 1 = 0 \rightarrow x^2 - 4x + 9 = 0 \Rightarrow (x-3)^2 = 0 \xrightarrow{\text{پ}} x=3$$

$$x^2 + 8x + 7 + 9 = 0 \rightarrow x^2 + 8x + 16 = 0 \Rightarrow (x+4)^2 = 0 \xrightarrow{\text{پ}} x=-4$$

$$x^2 - 8x + 9 = 0 \rightarrow (x-2)(x-3) = 0 \Rightarrow x=2, x=3$$

$$x^2 - 8x - 15 = 0 \rightarrow (x-7)(x+2) = 0 \Rightarrow x=7, x=-2$$

$$x^2 - 3x - 5 = 0 \rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{-2a} = \frac{3 \pm \sqrt{9+20}}{-2} = \frac{3+\sqrt{29}}{-2}, \frac{3-\sqrt{29}}{-2}$$

$$x^2 - 4x + \frac{1}{x} = 0 \rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{-2a} = \frac{4 \pm \sqrt{16-4}}{-4} = \frac{4+\sqrt{12}}{-4}, \frac{4-\sqrt{12}}{-4}$$

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

$$x^2 + x - 3 = 0 \rightarrow a+c=b \Rightarrow x=-1, x=-\frac{c}{a} = \frac{3}{x}$$

$$\text{الف} \quad \delta x^2 - 12x + 7 = 0 \rightarrow x^2 - 12x + 3\delta = 0 \rightarrow (x-7)(x-\delta) = 0 \\ \Rightarrow x=\frac{\delta}{\delta}, x=\frac{7}{\delta} \Rightarrow x=1, x=\frac{7}{\delta}$$

$$\text{ب} \quad 3x^2 - 10x + 7 = 0 \rightarrow x^2 - 10x + 21 = 0 \rightarrow (x-3)(x-7) = 0 \\ \Rightarrow x=3, x=7 \Rightarrow x=\frac{3}{3}=1, x=\frac{7}{7}$$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{-2a} = \frac{\Delta \pm \sqrt{4\Delta - 12}}{4} \Rightarrow \frac{\Delta + \sqrt{12}}{4}, \frac{\Delta - \sqrt{12}}{4}$$

$$\frac{-b \pm \sqrt{\Delta}}{-2a} = \frac{1 \pm \sqrt{1-12}}{-2} \quad \text{نذار } \frac{1}{-2}$$

$$\frac{-b \pm \sqrt{\Delta}}{-2a} = \frac{1 \pm \sqrt{1-12}}{-2} \Rightarrow \frac{1}{-2} = -1$$

$$\frac{-b \pm \sqrt{\Delta}}{-2a} = \frac{1 \pm \sqrt{1-12}}{-2} = \text{نذار } \frac{1}{-2}$$

$$2x^2 - 3x + a = 0 \rightarrow \alpha = 1 \rightarrow x^2 - 3x + (-4) = 0 \Rightarrow (x-1)(x-4) \quad \text{الف}$$

$$\rightarrow x=3, x=1 \rightarrow x = \frac{3}{2}, x = \frac{1}{2}$$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{-2a} = \frac{-4 \pm \sqrt{16-12}}{-2} \quad \text{نذار } \frac{1}{-2}$$

$$\frac{-b \pm \sqrt{\Delta}}{-2a} = \frac{-2 \pm \sqrt{4-0}}{-2} \Rightarrow \frac{-4}{-2} = 2, \frac{0}{-2} = 0$$

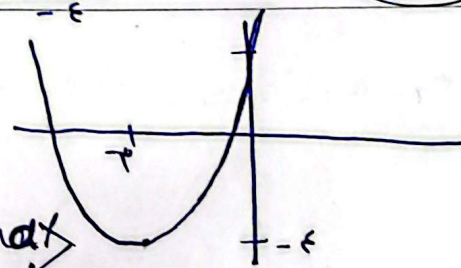
$$\frac{-b \pm \sqrt{\Delta}}{-2a} = \frac{-2 \pm \sqrt{4+12}}{-2} \Rightarrow \frac{-2 + \sqrt{16}}{-2} = 1, \frac{-2 - \sqrt{16}}{-2} = -3$$

$$a=1 \quad \text{ب}$$

$$a=0 \quad \text{ب}$$

$$a=-1 \quad \text{ب}$$

$$y = x^2 + 4x + 8 \quad \text{ext} \left| \frac{-b}{2a} = \frac{-4}{2} = -2 \right|$$

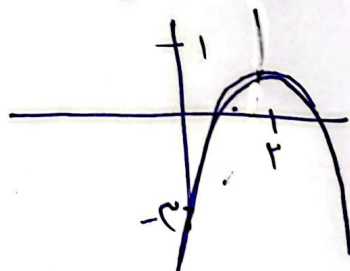


نقطة = max
الحد الأقصى

$$y = -x^2 + 6x - 2$$

$$\text{ext} \left| \frac{-b}{2a} = \frac{-6}{-2} = 3 \right|$$

نقطة = min



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

$$\text{الف) } 5^2 - 4p = \left(\frac{-b}{a}\right)^2 - 2\left(\frac{c}{a}\right) = \left(\frac{4}{1}\right)^2 - 2\left(\frac{-2}{1}\right) = 16$$

$$\text{ب) } 5^2 - 4p = \left(\frac{-b}{a}\right)^2 - 2\left(\frac{c}{a}\right)\left(\frac{-b}{a}\right) = \left(\frac{4}{1}\right)^2 - 2\left(\frac{-2}{1}\right)\left(\frac{4}{1}\right) = 36$$