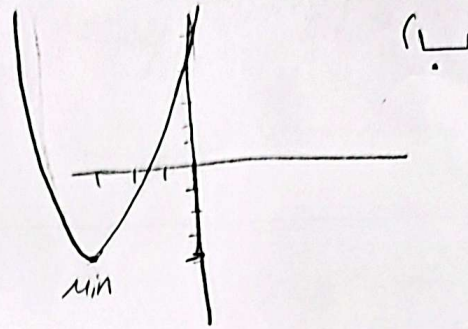
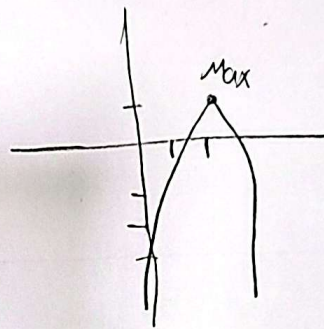


الف) $\min \left| \frac{-b}{2a} = \frac{-4}{2} = -2 \right.$
 $9 - 18 + 0 = -9 = y$



الف) $\max \left| \frac{-b}{2a} = \frac{-4}{-2} = 2 \right.$
 $y = -4 + 8 - 3 = 1$



ب) $x = -(x^2 - 5x + 3)$
 $x^2 - 5x + 3 = 0$
 $(x - 3)(x - 1) = 0$
 $x = 3, 1$

الف) $\Delta > 0 \quad b^2 - 4ac = 9 - 4(1)(a) > 0 \rightarrow \frac{9}{4} > a$

ب) $9 - 4a = 0 \rightarrow a = \frac{9}{4}$

ج) $9 - 4a < 0 \rightarrow a > \frac{9}{4}$

د) $9 - 4a > 0 \rightarrow a < \frac{9}{4}$

الف) $x^2 - 2x - 1 = 0$ $\Rightarrow$ ب) $x^2 - x - 1 = 0$

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

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

$(x - 1)^2 = 2$

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

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

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

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

الف) $\Delta = b^2 - 4ac = 4 - 4(-1) = 8$

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

ب) $\Delta = b^2 - 4ac = 1 - 4(-1) = 5 < 0 \quad x = \frac{-1 \pm \sqrt{5}}{2}$

$$\text{الف) } (x-4)(x-7)=0$$

$$x=4 \text{ و } 7$$

$$\text{ب) } (x-4)(x+7)$$

$$x=4 \text{ و } (-7)$$

$$\text{الف) } x^2 - 12x + 28 = 0$$

$$(x-4)(x-7)=0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \rightarrow 1 \pm \frac{\sqrt{16-48}}{2}$$

$$a+b+c=0 \rightarrow x = 1 \pm \frac{c}{a}$$

$$\text{ب) } x^2 - 10x + 21 = 0$$

$$(x-3)(x-7)=0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \rightarrow 1 \pm \frac{\sqrt{100-84}}{2}$$

$$a+b+c=0 \rightarrow x = 1 \pm \frac{c}{a}$$

$$\text{الف) } x^2 - 5x + 4 = 0$$

$$(x-1)(x-4) \rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = 1 \pm \frac{\sqrt{25-16}}{2}$$

$$a+b+c=0 \rightarrow x = 1 \pm \frac{c}{a}$$

$$\text{ب) } a+c=b \rightarrow x = -1 \pm \frac{c}{a}$$

$$\text{ج) } \Delta = b^2 - 4ac =$$

$$25 - 4(1) = 21$$

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

$$\Delta = b^2 - 4ac = 49 - 4(14) < 0$$

لذا لا يوجد جواب حقيقي

$$S = -\frac{b}{a}, P = \frac{c}{a} \Rightarrow S = -\frac{(-2)}{1} = 2, P = \frac{-2}{1} = -2$$

$$\text{الف) } 9 - 2\left(\frac{x}{2}\right) = 13$$

$$\text{ب) } 2V - \frac{3}{18}(x)(-2) = 48$$

$$\left(\frac{1}{2}\right) = \frac{9 \times 1}{2} = 4.5$$

$$\left(\frac{1}{2}\right) = \left(\frac{1}{2}\right) = \frac{9 \times 4}{2} = 18$$

$$\left. \begin{matrix} 4.5 \\ 18 \end{matrix} \right\} \rightarrow 4.5 + 18 = 22.5$$

الف)

$$\left(\frac{1}{2}\right) = \frac{9 \times 4 \times 4}{2 \times 2} = 36$$

$$\left(\frac{1}{2}\right) = \frac{4 \times 4}{2} = 8$$

$$\left. \begin{matrix} 36 \\ 8 \end{matrix} \right\} \rightarrow 36 - 8 = 28$$

ب)