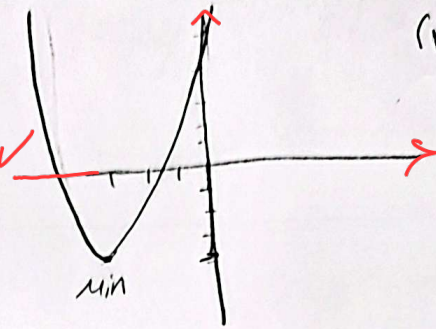


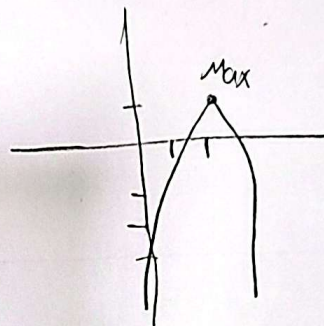
الف) $\min \left| \frac{-b}{2a} = \frac{-4}{2} = -2 \right|$ ✓
 $9 - 18 + 0 = -9 = y$ ✓



ب)

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



ب) $x = -(\frac{1}{2}x^2 + \frac{1}{2})$ ✓
 $x^2 - \frac{1}{2}x + \frac{1}{2} = 0$
 $(2x - 1)(x + 1) = 0$
 $x = \frac{1}{2}$ ✓

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

ب) $4 - 1a = 0 \rightarrow a = \frac{4}{1}$ ✓

ج) $4 - 1a < 0 \rightarrow a > \frac{4}{1}$ ✓

د) $4 - 1a > 0 \rightarrow a < \frac{4}{1}$ ✓

الف) $x^2 - 2x + 1 = 0$

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

$(x - 1)^2 = 0$

$x - 1 = \pm \sqrt{0}$ ✓

$x = 1 \pm \sqrt{0}$

ب) $x^2 - x + 1 = 0$

$x^2 - x + \frac{1}{4} = \frac{3}{4}$

$(x - \frac{1}{2})^2 = \frac{3}{4}$

$x - \frac{1}{2} = \pm \frac{\sqrt{3}}{2} \rightarrow x = \frac{1 \pm \sqrt{3}}{2}$ ✓

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

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

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

$$(الف) (x-4)(x-7)=0$$

$$x=4 \text{ و } 7$$

$$(ب) (x-4)(x+7)$$

$$x=4 \text{ و } (-7)$$

$$(الف) x^2 - 12x + 28 = 0$$

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

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

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

$$(ب) x^2 - 10x + 21 = 0$$

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

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

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

$$(الف) x^2 - 5x + 4 = 0$$

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

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

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

$$(ج) \Delta = b^2 - 4ac = 100 - 4(21) = 16$$

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

$$x = \frac{5 \pm \sqrt{16}}{2}$$

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

لا يوجد جواب حقيقي

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

$$P = \frac{2}{1} = 2$$

$$(الف) 9 - 2\left(\frac{4}{3}\right) = 13$$

$$(ب) 2V - 3\left(\frac{4}{3}\right)(-2) = 18$$

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

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

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

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

$$\left\{ \begin{array}{l} \frac{1}{2} \rightarrow 4.5 + 18 = 22.5 \end{array} \right.$$

$$\left\{ \begin{array}{l} \frac{1}{2} \rightarrow 18 - 18 = 0 \end{array} \right.$$