

(1)

الف)  $x^2 - 4x + 4 = 0 \rightarrow (x-2)(x-2) \Rightarrow \underline{2, 2}$   
 ب)  $x^2 + 11x + 10 = 0 \rightarrow (x+1)(x+10) \Rightarrow \underline{-1, -10}$

(2)

الف)  $x^2 - 5x + 4 = 0 \rightarrow (x-1)(x-4) \Rightarrow \underline{1, 4}$   
 ب)  $x^2 - 5x - 14 = 0 \rightarrow (x-7)(x+2) \Rightarrow \underline{7, -2}$

(3)

ج/  $\Delta = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

الف)  $x^2 - 3x - 5 = 0$   $\frac{3 + \sqrt{9 + 20}}{2}$   $\frac{3 - \sqrt{29}}{2}$

ب)  $2x^2 - 7x + \frac{1}{2} = 0$   $\frac{7 + \sqrt{49 - 4}}{4}$   $\frac{7 - \sqrt{45}}{4}$

(4)

الف)  $x^2 - 3x + 2 = 0 \rightarrow (x-1)(x-2) \rightarrow \underline{1, 2}$

ب)  $\overbrace{2x^2 + x}^x - 12 = 0 \rightarrow x^2 + x - 12 \rightarrow (x+4)(x-3)$   
 $\left\{ -\frac{4}{1}, \frac{3}{1} \right\}$

⑤

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

$$\left\{ \frac{7}{5}, \frac{5}{5} \right\}$$

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

$$\left\{ \frac{7}{3}, \frac{3}{3} \right\}$$

$$\text{الف) } -3x^2 + 5x - 1 = 0$$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\frac{-5 + \sqrt{25 - 12}}{-6}$$

$$\frac{-5 - \sqrt{13}}{-6}$$

$$\text{ب) } 2x^2 - x + 1 = 0$$

$$\frac{1 + \sqrt{1 - 12}}{4}$$

$$\frac{1 - \sqrt{1 - 12}}{4}$$

$$\text{ج) } 2x^2 - 4x + 2 = 0$$

$$\frac{4 + \sqrt{16 - 16}}{4} = 1$$

$$\text{د) } 2x^2 - x + 1 = 0$$

$$\frac{1 + \sqrt{1 - 8}}{4}$$

$$\frac{1 - \sqrt{1 - 8}}{4}$$

س/ن \*

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

(v)

$$b^2 - 4ac > 0$$

الف)  $a > 1$

$$9 - 4a$$

$$9 - 4a = 0$$

$$a = \frac{9}{4} \quad \text{ب)}$$

$$9 - 4a < 0$$

ج)  $a > \frac{9}{4}$

د)  $a < \frac{9}{4}$

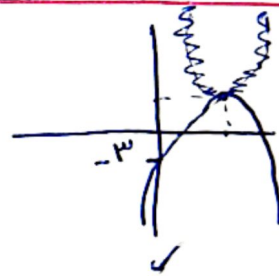
$$y = -x^2 + 3x - 4$$

$$\left| \begin{array}{l} -\frac{b}{2a} = -\frac{3}{-2} = \frac{3}{2} \\ -\frac{c}{a} = \frac{4}{-1} = -4 \end{array} \right.$$

الف)  $\Rightarrow$

$$-3 + 1 - 4 = -6$$

ب)

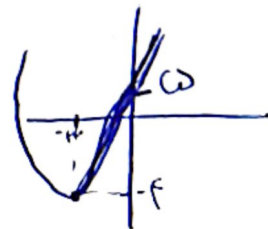


9)  $\rightarrow$



$$y = x^2 + 4x + 5$$

$$\left| \begin{array}{l} -\frac{b}{2a} = -\frac{4}{2} = -2 \\ 4 - 16 + 5 = -7 \end{array} \right.$$



1)

$$x^2 - 13x - 4 = 0$$

(10)

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\frac{13 + \sqrt{9 + 16}}{2}$$

$$\frac{13 - \sqrt{9 + 16}}{2}$$

$$\frac{13 + \sqrt{14} + 13 - \sqrt{14}}{2} = \frac{26}{2} = 13 \rightarrow S$$

$$\frac{(13 + \sqrt{14})}{2} \times \frac{(13 - \sqrt{14})}{2}$$

$$\frac{9 - 14}{2} = \frac{-5}{2} = -2.5 \rightarrow P$$

الف)  $9 + 13 = 22$

ب)  $13 + 14 = 27$

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