

8	$x=1 \rightarrow x^2-1=ax+b \rightarrow 0=a+b$ $x=2 \rightarrow x^2=4=2a+b \rightarrow 1=2a+b$ $a \times b = 1 \times -1 = -1$	$\left. \begin{aligned} a &= 1 - b = -1 \end{aligned} \right\}$
9	$x^2=k \rightarrow 2x-4=4-cx \rightarrow 2k-4=4-4c$ $\rightarrow 2k=8 \rightarrow k=4$	
10	$x^2-4y=xy^3-xy^2 \rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$
11	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$
12	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$
13	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$
14	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$
15	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$
16	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$
17	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$
18	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$
19	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$
20	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$	$x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$ $\rightarrow x^2-4y=xy^3-xy^2$

$$\begin{aligned} \text{الف) } 4x^2 - 5x - 9 = 0 &\rightarrow x^2 - 5x - 9 = 0 \rightarrow (x-9)(x+4) = 0 \rightarrow x = 9, -4 \rightarrow x = 9, -4 \\ x = \left(\frac{5}{4}\right) &\rightarrow x = 9, -4 \rightarrow x = 9, -4 \rightarrow x = 9, -4 \\ \text{ب) } 4x^2 - 8x - 9 = 0 &\rightarrow x^2 - 2x - 9 = 0 \rightarrow (x-9)(x+4) = 0 \rightarrow x = 9, -4 \rightarrow x = 9, -4 \\ \text{ج) } 4x^2 - 14x - 12 = 0 &\rightarrow x^2 - 7x - 12 = 0 \rightarrow (x-9)(x+4) = 0 \rightarrow x = 9, -4 \rightarrow x = 9, -4 \\ \text{د) } 4x^2 - 5x - 12 = 0 &\rightarrow x^2 - 5x - 12 = 0 \rightarrow (x-9)(x+4) = 0 \rightarrow x = 9, -4 \rightarrow x = 9, -4 \end{aligned}$$

$$\begin{aligned} \text{الف) } x^2 - 5x - 14 = 0 &\rightarrow (x-7)(x+2) = 0 \rightarrow x = 7, -2 \\ \text{ب) } 2x^2 + 5x + 3 = 0 &\rightarrow x^2 + 2.5x + 1.5 = 0 \rightarrow (x+3)(x+1) = 0 \rightarrow x = -3, -1 \\ \text{ج) } x^2 + 2x + 3 = 0 &\rightarrow \Delta = b^2 - 4ac \rightarrow 4 - 12 = -8 \quad \Delta < 0 \quad \text{حاصل ندارد} \\ \text{د) } 4x^2 + 3x - 2 = 0 &\rightarrow \Delta = b^2 - 4ac \rightarrow 9 - 4 \cdot 4 \cdot (-2) = 9 + 32 = 41 \\ x_{1,2} = \frac{-b \pm \sqrt{\Delta}}{2a} &\rightarrow \frac{-3 \pm \sqrt{41}}{4} \rightarrow x_1 = \frac{-3 + \sqrt{41}}{4} \quad \text{و} \quad x_2 = \frac{-3 - \sqrt{41}}{4} \end{aligned}$$

$$\begin{aligned} B^2 &\rightarrow \{ (1,2), (1,3), (2,3), (3,2), (3,1) \} \\ A \times B &\rightarrow \{ (1,2), (1,3), (2,3), (3,2), (3,1) \} \\ A \times B - B^2 &\rightarrow \{ (1,2), (1,3), (2,3), (3,2), (3,1) \} - \{ (1,2), (1,3), (2,3), (3,2), (3,1) \} \\ A \times B - B^2 &\rightarrow \{ (1,2), (1,3), (2,3), (3,2), (3,1) \} \end{aligned}$$

$$\begin{aligned} (3, m) \mid (3, m+2) &\rightarrow m^2 = m+2 \rightarrow m^2 - m - 2 = 0 \rightarrow (m-2)(m+1) = 0 \rightarrow m = 2, -1 \\ m = 2 &\rightarrow (3, 4) \mid (3, 1) \mid (-3, 4) \mid (-2, 4) \mid (3, 4) \mid (4, 4) \leftarrow \text{ق ق} \\ m = -1 &\rightarrow (3, 1) \mid (2, 1) \mid (1, 4) \mid (1, 3) \mid (3, 1) \mid (4, 1) \leftarrow \text{ق ق} \\ (3, m) \mid (3, m+2) &\rightarrow m^2 = m+2 \rightarrow m^2 - m - 2 = 0 \rightarrow (m-2)(m+1) = 0 \rightarrow m = 2, -1 \\ m = 2 &\rightarrow (3, 4) \mid (2, 1) \mid (3, 4) \mid (3, 4) \mid (-2, 2) \mid (-1, 3) \leftarrow \text{ق ق} \\ m = -1 &\rightarrow (3, 1) \mid (2, 1) \mid (-1, 4) \mid (3, 1) \mid (-2, -1) \mid (-1, 3) \leftarrow \text{ق ق} \end{aligned}$$

$$\begin{aligned} (1, a^2) \mid (1, a-2) &\rightarrow 1 \mid a^2 - a + 2 = 0 \rightarrow a = 1, 2 \rightarrow a = 2 \\ a = 1 &\rightarrow (1, 1) \mid (1, 1) \mid (1, 1) \mid (1, 1) \mid (1, 1) \mid (1, 1) \\ a = 2 &\rightarrow (1, 4) \mid (1, 4) \mid (1, 4) \mid (1, 4) \mid (1, 4) \mid (1, 4) \end{aligned}$$