

حل المسائل

المسائل

المسائل: 1, 2, 3, 4, 5

1) $4x^2 - 9x - 4 = 0 \rightarrow x^2 - 2.25x - 1 = 0 \rightarrow (x-4)(x+1) = 0 \rightarrow x = 4 \text{ or } -1 \Rightarrow \langle x = \frac{4}{1} / \frac{-1}{1} \rangle$ ①

2) $3x^2 - 11x - 2 = 0 \rightarrow x^2 - 3.67x - 0.57 = 0 \rightarrow (x-4)(x+1) = 0 \rightarrow x = 4 \text{ or } -1 \Rightarrow \langle x = \frac{4}{1} / \frac{-1}{1} \rangle$

3) $4x^2 - 11x - 3 = 0 \rightarrow x^2 - 2.75x - 0.75 = 0 \rightarrow (x-4)(x+1) = 0 \rightarrow x = 4 \text{ or } -1 \Rightarrow \langle x = \frac{4}{1} / \frac{-1}{1} \rangle$

4) $2x^2 - 9x - 5 = 0 \rightarrow x^2 - 4.5x - 2.5 = 0 \rightarrow (x-5)(x+1) = 0 \rightarrow x = 5 \text{ or } -1 \Rightarrow \langle x = \frac{5}{1} / \frac{-1}{1} \rangle$

5) $x^2 - 5x - 14 = 0 \rightarrow (x-7)(x+2) = 0 \rightarrow \langle x = 7 / -2 \rangle$ -2

6) $2x^2 + 5x + 2 = 0 \rightarrow x^2 + 2.5x + 1 = 0 \rightarrow (x+2)(x+0.5) = 0 \rightarrow \langle x = -2 / -0.5 \rangle$

7) $x^2 + 2x + 1 = 0 \rightarrow \Delta = 4 - 4(1)(1) = 0 \rightarrow \langle x = -1 \rangle$

8) $3x^2 + 11x - 2 = 0 \rightarrow \Delta = 121 - 4(3)(-2) = 145 \rightarrow x = \frac{-11 \pm \sqrt{145}}{6}$

9) $A = \{1, 2, 3\}, B = \{1, 2\} \Rightarrow A \times B = \{(1,1), (1,2), (2,1), (2,2), (3,1), (3,2)\}$ -3

$B^c = \{(1,2), (2,1), (2,2), (3,1), (3,2)\}$ $A \times B = B^c \Rightarrow \{(1,1), (1,2)\}$

10) $f(x) = \{(1, m), (2, m), (3, m), (4, m), (5, m)\}$ $m^2 - m + 2 = 0 \rightarrow$ -4

if $m = 2 \rightarrow (1, 2), (2, 2), (3, 2), (4, 2), (5, 2) \times \vec{0} \vec{0} \vec{0} \vec{0} \vec{0} \rightarrow (m-1)(m+1) = 0 \rightarrow m = 1 / -1 \Rightarrow \langle m = -1 \rangle$

11) $m^2 = m + 2 \rightarrow m^2 - m - 2 = 0 \rightarrow m = -1 / 2 \rightarrow$ if $m = -1 \rightarrow (1, -1), (2, -1), (3, -1), (4, -1), (5, -1) \times \vec{0} \vec{0} \vec{0} \vec{0} \vec{0} \Rightarrow \langle m = 2 \rangle$

12) $f(x) = \{(1, a), (2, a), (3, a), (4, a), (5, a)\}$ $a^2 - 3a + 2 = 0 \rightarrow (a-1)(a-2) = 0 \rightarrow a = 1 / 2$ -5

if $a = 1 \rightarrow \{(1, 1), (2, 1), (3, 1), (4, 1), (5, 1)\} \times \vec{0} \vec{0} \vec{0} \vec{0} \vec{0} /$ if $a = 2 \rightarrow \{(1, 2), (2, 2), (3, 2), (4, 2), (5, 2)\} \checkmark \Rightarrow \langle a = 2 \rangle$

13) if $x = 1 \rightarrow (1^2 = a + b) \times (-1) \left\{ \begin{array}{l} a = a, b = -1 \\ (a, b) \end{array} \right. \Rightarrow a \times b = 1(-1) = -1$ -6

if $x = 2 \rightarrow 4 = 2a + b$

14) if $x = k \rightarrow 2k - 3 = 4 - 3k \rightarrow 5k = 4 \Rightarrow \langle k = \frac{4}{5} \rangle$ -7

