

RACINES CARREES

EXERCICE 1B

EXERCICE 1 : Calculer :

$$A = (\sqrt{2} + 1)(\sqrt{2} + 3)$$

$$A = \sqrt{2} \times \sqrt{2} + \sqrt{2} \times 3 + 1 \times \sqrt{2} + 1 \times 3$$

$$A = 2 + 3\sqrt{2} + \sqrt{2} + 3$$

$$A = 4\sqrt{2} + 5$$

$$B = (\sqrt{5} + 2)(1 + \sqrt{5})$$

$$C = (\sqrt{2} + 1)(\sqrt{2} - 3)$$

$$D = (\sqrt{2} + 1)(\sqrt{2} - 1)$$

EXERCICE 2 : Calculer :

$$A = (\sqrt{2} + 1)^2$$

$$A = (\sqrt{2})^2 + 2 \times \sqrt{2} \times 1 + 1^2$$

$$A = 2 + 2\sqrt{2} + 1$$

$$A = 2\sqrt{2} + 3$$

$$B = (\sqrt{3} + 2)^2$$

$$C = (\sqrt{5} - 2)^2$$

$$D = (5 + \sqrt{7})^2$$

EXERCICE 3 : Calculer :

$$A = 3\sqrt{2}(\sqrt{2} + 1)$$

$$A = 3\sqrt{2} \times \sqrt{2} + 3\sqrt{2} \times 1$$

$$A = 3 \times 2 + 3\sqrt{2}$$

$$A = 3\sqrt{2} + 6$$

$$B = (2\sqrt{5} + 2)(1 - 3\sqrt{5})$$

$$C = 7\sqrt{3}(3 - 5\sqrt{3})$$

$$D = (5\sqrt{2} - 4)(3 - 8\sqrt{2})$$

EXERCICE 4 : Calculer :

$$A = (3\sqrt{2} + 1)^2$$

$$A = (3\sqrt{2})^2 + 2 \times 3\sqrt{2} \times 1 + 1^2$$

$$A = 9 \times 2 + 6\sqrt{2} + 1$$

$$A = 6\sqrt{2} + 19$$

$$B = (2\sqrt{3} + 1)^2$$

$$C = (2\sqrt{5} + 3)^2$$

$$D = \sqrt{2}(5 + 3\sqrt{2})^2$$

EXERCICE 5 : Calculer :

$$A = 2\sqrt{3}(7\sqrt{3})^2$$

$$A = 2\sqrt{3} \times (7\sqrt{3} \times 7\sqrt{3})$$

$$A = 2\sqrt{3} \times (7 \times 7 \times \sqrt{3} \times \sqrt{3})$$

$$A = 2\sqrt{3} \times 49 \times 3$$

$$A = 294\sqrt{3}$$

$$B = 3\sqrt{7}(2 - 11\sqrt{7})^2$$

$$C = 2\sqrt{7}(1 - 3\sqrt{7})(2\sqrt{7} - 3)$$

EXERCICE 6 : Développer :

$$A = (x + \sqrt{2})^2$$

$$A = x^2 + 2 \times x \times \sqrt{2} + (\sqrt{2})^2$$

$$A = x^2 + 2\sqrt{2}x + 2$$

$$B = (\sqrt{3} - x)^2$$

$$C = (x - 2\sqrt{5})(x + 2\sqrt{5})$$