

AP2 sur les racines carrées

Exercice I

Calculer :

$$a = \sqrt{9} = 3 \text{ car } 3 \geq 0 \text{ et } 3^2 = 9$$

$$b = \sqrt{25} = 5 \text{ car } 5 \geq 0 \text{ et } 5^2 = 25$$

$$c = \sqrt{0} = 0 \text{ car } 0 \geq 0 \text{ et } 0^2 = 0$$

$$d = \sqrt{1} = 1 \text{ car } 1 \geq 0 \text{ et } 1^2 = 1$$

$$e = \sqrt{(-3)^2} = \sqrt{9} = 3$$

$$f = \sqrt{2} \text{ na pas d'autre écriture possible.}$$

Exercice II

Calculer :

$$A = \sqrt{2} \times \sqrt{18} = \sqrt{3^2 \times 2} = \boxed{3\sqrt{2}}$$

$$B = \sqrt{3} \times \sqrt{27} = \sqrt{3^2 \times 3} = \boxed{3\sqrt{3}}$$

$$C = \frac{\sqrt{54}}{\sqrt{6}} = \sqrt{\sqrt{546}} = \sqrt{9} = \boxed{3}$$

Exercice III

Simplifier :

$$A = \sqrt{50} = \sqrt{25 \times 2} = \sqrt{5^2 \times 2} = \boxed{5\sqrt{2}}$$

$$B = \sqrt{8} = \sqrt{2^2 \times 2} = \boxed{2\sqrt{2}}$$

$$C = \sqrt{32} = \sqrt{16 \times 2} = \sqrt{4^2 \times 2} = \boxed{4\sqrt{2}}$$

$$D = \sqrt{48} = \sqrt{16 \times 3} = \sqrt{4^2 \times 3} = \boxed{4\sqrt{3}}$$

$$E = \sqrt{3} \times \sqrt{6} = \sqrt{3} \times \sqrt{2} \times \sqrt{3} = \sqrt{3^2} \times \sqrt{2} = \boxed{3\sqrt{2}}$$

$$F = \sqrt{5} \times \sqrt{20} = \sqrt{5} \times \sqrt{2^2 \times 5} = \sqrt{5} \times 2\sqrt{5} = \sqrt{5^2} \times 2 = \boxed{10}$$

$$G = \sqrt{3} \times \sqrt{6} \times \sqrt{8} = \sqrt{3} \times \sqrt{2} \times \sqrt{3} \times 2\sqrt{2} = 2 \times 2 \times 3 = \boxed{12}$$

Exercice IV

Simplifier :

$$A = 2\sqrt{20} - \sqrt{45} + \sqrt{125} = 2 \times 2\sqrt{5} - 3\sqrt{5} + 5\sqrt{5} = (4 - 3 + 5)\sqrt{5} = \boxed{6\sqrt{5}}$$

$$B = 7\sqrt{3} - 3\sqrt{48} + 5\sqrt{12} = 7\sqrt{3} - 3 \times 4\sqrt{3} + 5 \times 2\sqrt{3} = (7 - 12 + 10)\sqrt{3} = \boxed{5\sqrt{3}}$$