

Résolutions de base

Fractions

$$\frac{W}{X} + \frac{Y}{Z} = \frac{W.Z + X.Y}{X.Z}$$

$$\frac{1}{2} + \frac{2}{3} = \frac{1 \times 3 + 2 \times 2}{2 \times 3} = \frac{3 + 4}{6} = \frac{7}{6}$$

$$\frac{W}{X} \cdot \frac{Y}{Z} = \frac{W.Y}{X.Z}$$

$$\frac{1}{2} \times \frac{2}{3} = \frac{1 \times 2}{2 \times 3} = \frac{2}{6} = \frac{1}{3}$$

$$\frac{\frac{W}{X}}{\frac{Y}{Z}} = \frac{W.Z}{X.Y}$$

$$\frac{\frac{1}{2}}{\frac{2}{3}} = \frac{1 \times 3}{2 \times 2} = \frac{3}{4}$$

Développements

$$(A+B)^2 = A^2 + B^2 + 2.A.B$$

$$(A-B)^2 = A^2 + B^2 - 2.A.B$$

$$(A.B)^2 = A^2.B^2$$

$$(2.X)^2 = 4.X^2$$

Simplifications

$$2.X.3.X = 6.X^2$$

$$\frac{2.L^2}{L} = 2L$$

$$(X^3)^2 = X^6$$

$$\sqrt{X} = X^{1/2}$$

$$\sqrt[5]{X} = X^{1/5}$$

Equations du 2^{ème} degré factorisées

$$3.(X+1).(X-1) = 0 \rightarrow X+1 = 0 \quad \text{ou} \quad X-1 = 0$$
$$X = -1 \quad \text{ou} \quad X = +1$$

Equations du 2^{ème} degré développées

$$a.X^2 + b.X + c = 0 \rightarrow \Delta = b^2 - 4.a.c$$

$$\text{solutions : } X_1 = \frac{-b - \sqrt{\Delta}}{2.a}$$

$$X_2 = \frac{-b + \sqrt{\Delta}}{2.a}$$