

# Operazioni e proprietà

## Addizione

$$\begin{array}{c} \boxed{12} + \boxed{18} = \boxed{30} \leftarrow \text{somma} \\ \uparrow \quad \quad \uparrow \\ \text{addendo} \quad \text{addendo} \end{array}$$

proprietà addizione:

commutativa

$$\begin{array}{c} \text{5 + 4 = 9} \\ \text{4 + 5 = 9} \end{array}$$

associativa

$$\begin{array}{c} \text{6 + 4 + 5 = 15} \\ \downarrow \\ \boxed{10} + 5 = 15 \end{array}$$

dissociativa

$$\begin{array}{c} \boxed{13} + 7 = 20 \\ \swarrow \quad \searrow \\ \text{10 + 3 + 7 = 20} \end{array}$$

## sottrazione

$$\begin{array}{c} 10 \\ \uparrow \\ \text{minuendo} \end{array} - \begin{array}{c} 8 \\ \uparrow \\ \text{sottraendo} \end{array} = 2 \leftarrow \text{differenza}$$

proprietà sottrazione:

invariantiva

$$22 - 13 = 9$$

$$(22 + 7) - (13 + 7) = 29 - 20 = 9$$

$$(22 - 2) - (13 - 2) = 20 - 11 = 9$$

## moltiplicazione

$$\begin{array}{c} 3 \\ \uparrow \\ \text{fattori} \end{array} \times \begin{array}{c} 4 \\ \uparrow \\ \text{fattori} \end{array} = 12 \leftarrow \text{prodotto}$$

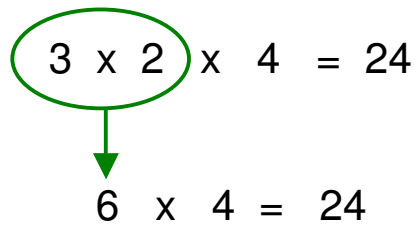
proprietà moltiplicazione:

commutativa

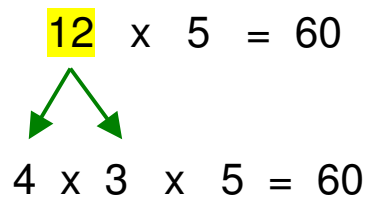
$$3 \times 4 = 12$$

$$4 \times 3 = 12$$

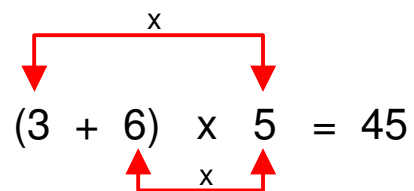
associativa

$$(3 \times 2) \times 4 = 24$$

$$6 \times 4 = 24$$

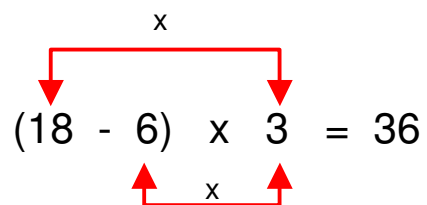
dissociativa

$$12 \times 5 = 60$$

$$4 \times 3 \times 5 = 60$$

distributiva

$$(3 + 6) \times 5 = 45$$


$$15 + 30 = 45$$

$$(18 - 6) \times 3 = 36$$


$$54 - 18 = 36$$

## divisione

$$\begin{array}{c} 12 : 4 = 3 \leftarrow \text{quoziente} \\ \uparrow \quad \uparrow \\ \text{dividendo} \quad \text{divisore} \end{array}$$

proprietà divisione:

invariantiva

$$20 : 4 = 5$$

$$(20 \times 3) : (4 \times 3) = 60 : 12 = 5$$

$$(20 : 2) : (4 : 2) = 10 : 2 = 5$$

distributiva

$$\begin{array}{c} : \\ \downarrow \quad \downarrow \\ (12 + 8) : 4 = 5 \\ \uparrow \quad \uparrow \\ : \end{array}$$

$$3 + 2 = 5$$

$$\begin{array}{c} : \\ \downarrow \quad \downarrow \\ (18 - 6) : 3 = 4 \\ \uparrow \quad \uparrow \\ : \end{array}$$

$$6 - 2 = 4$$

# Espressioni

## senza parentesi

$$\begin{aligned} & 16 : 2 + 5 \times 3 - 4 + 15 : 5 \times 6 = \\ & = 8 + 15 - 4 + 18 = \\ & = 23 - 4 + 18 = \\ & = 19 + 18 = \\ & = 37 \end{aligned}$$

## con parentesi

$$\begin{aligned} & 2 + \{ [12 : (3 + 3)] \times 8 - 14 \} \times 4 = \\ & = 2 + \{ [12 : 6] \times 8 - 14 \} \times 4 = \\ & = 2 + \{ 2 \times 8 - 14 \} \times 4 = \\ & = 2 + \{ 16 - 14 \} \times 4 = \\ & = 2 + 2 \times 4 = \\ & = 2 + 8 = \\ & = 10 \end{aligned}$$