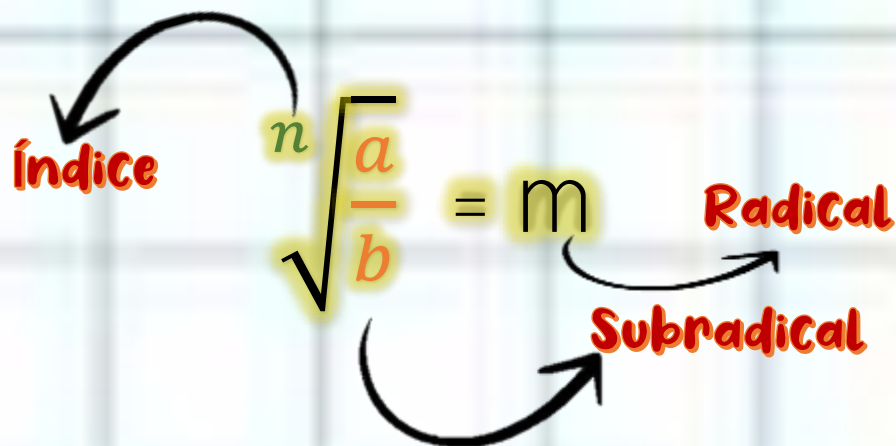


# Radicación de números racionales

La radicación es la operación inversa de la potenciación, se representa mediante el símbolo  $\sqrt{\quad}$ , donde la expresión  $\sqrt[n]{\frac{a}{b}}$  es el radical.

## Partes del radical



# Ejemplos:

Simplifique los siguientes radicales

Diagram illustrating the simplification of a radical expression. The expression is  $\sqrt[4]{\frac{16}{81}} = \frac{2}{3}$ . Labels with arrows point to different parts: "Índice" points to the 4, "Radical" points to the root symbol, and "Subradical" points to the fraction  $\frac{16}{81}$ .

Pues

Diagram illustrating the prime factorization of the radicand and the index, leading to the simplified form:

$$\frac{16}{81} = \frac{2^4}{3^4} = \left(\frac{2}{3}\right)^4$$

16	2
8	2
4	2
2	2
1	

}

$2^4$

81	3
27	3
9	3
3	3
1	

}

$3^4$

# Ejemplos:

Simplifique los siguientes radicales

$\sqrt[3]{\frac{343}{125}} = \frac{7}{5}$

Labels: Índice (3), Radical, Subradical

Pues

$$\frac{343}{125} = \frac{7^3}{5^3} = \left(-\frac{7}{5}\right)^3$$

343	7
49	7
7	7
1	

 $\left. \vphantom{\begin{matrix} 343 \\ 49 \\ 7 \\ 1 \end{matrix}} \right\} 7^3$ 

125	5
25	5
5	5
1	

 $\left. \vphantom{\begin{matrix} 125 \\ 25 \\ 5 \\ 1 \end{matrix}} \right\} 5^3$ 

**Actividad:**

[Clic aquí](#)

# Práctica:

Simplifique los siguientes radicales

1.  $\sqrt[3]{0,125} =$

2.  $\sqrt{\frac{100}{9}} =$

3.  $\sqrt[5]{\frac{-1}{32}} =$

4.  $\sqrt{0,16} =$

5.  $\sqrt{\frac{36}{25}} =$

6.  $\sqrt{\frac{144}{121}} =$

7.  $\sqrt[4]{0,0001} =$

8.  $\sqrt[4]{\frac{625}{81}} =$

9.  $\sqrt{0,25} =$

10.  $\sqrt{5, \bar{4}} =$

# Soluciones:

$$1. \sqrt[3]{0,125} = \frac{1}{2}$$

$$2. \sqrt{\frac{100}{9}} = \frac{10}{3}$$

$$3. \sqrt[5]{\frac{-1}{32}} = -\frac{1}{2}$$

$$4. \sqrt{0,16} = \frac{2}{5}$$

$$5. \sqrt{\frac{36}{25}} = \frac{6}{5}$$

$$6. \sqrt{\frac{144}{121}} = \frac{12}{11}$$

$$7. \sqrt[4]{0,0001} = \frac{1}{10}$$

$$8. \sqrt[4]{\frac{625}{81}} = \frac{5}{3}$$

$$9. \sqrt{0,25} = \frac{1}{2}$$

$$10. \sqrt{5,\bar{4}} = \frac{7}{3}$$