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# Índice general

## **1. Ejercicios operaciones con números reales**

**3**



# Clase 1

## Ejercicios operaciones con números reales

Resolver los siguientes ejercicios

1.  $\frac{5}{2} + \frac{3}{4}$

$$\begin{aligned}\frac{5}{2} + \frac{3}{4} &= \frac{5 \cdot 4 + 2 \cdot 3}{2 \cdot 4} \\ &= \frac{20 + 6}{8} = \frac{26}{8}\end{aligned}$$

2.  $\frac{3}{4} - \frac{1}{3}$

$$\begin{aligned}\frac{3}{4} - \frac{1}{3} &= \frac{9 - 4}{12} \\ &= \frac{5}{12}\end{aligned}$$

3.  $\frac{2}{7} \times \frac{8}{3}$

$$\begin{aligned}\frac{2}{7} \times \frac{8}{3} &= \frac{2 \cdot 8}{7 \cdot 3} \\ &= \frac{16}{21}\end{aligned}$$

4.  $\frac{1}{5} \div \frac{3}{4}$

$$\begin{aligned}\frac{1}{5} \div \frac{3}{4} &= \frac{1 \cdot 4}{5 \cdot 3} \\ &= \frac{4}{15}\end{aligned}$$

5.  $\frac{5}{3} \cdot \left(1 + \frac{4}{3}\right)$

$$\begin{aligned}\frac{5}{3} \cdot \left(1 + \frac{4}{3}\right) &= \frac{5}{3} \cdot 1 + \frac{5}{3} \cdot \frac{4}{3} \\ &= \frac{5}{3} + \frac{20}{9} \\ &= \frac{45 + 20}{9} \\ &= \frac{65}{9}\end{aligned}$$

6.  $\frac{1}{2} \cdot \left(\frac{4}{3} \div \frac{9}{8}\right)$

$$\begin{aligned}\frac{1}{2} \cdot \left(\frac{4}{3} \div \frac{9}{8}\right) &= \frac{1}{2} \cdot \left(\frac{4}{3} \cdot \frac{8}{9}\right) \\ &= \frac{1}{2} \cdot \frac{32}{27} \\ &= \frac{16}{27}\end{aligned}$$

$$7. \frac{\left(\frac{1}{2}\right)^2 \cdot (2^3)^5}{2^3 \cdot 2^4 \cdot \left(\frac{1}{2}\right)^3}$$

$$\frac{\left(\frac{1}{2}\right)^2 \cdot (2^3)^5}{2^3 \cdot 2^4 \cdot \left(\frac{1}{2}\right)^3} = \frac{\frac{1^2}{2^2} \cdot 2^{15}}{2^{3+4} \cdot \frac{1^3}{2^3}}$$

$$= \frac{\frac{1}{2^2} \cdot \frac{2^{15}}{1}}{\frac{2^7}{1} \cdot \frac{1}{2^3}}$$

$$= \frac{\frac{2^{15}}{2^2}}{\frac{2^7}{2^3}} = \frac{2^{15-2}}{2^{7-3}}$$

$$= \frac{2^{13}}{2^4} = 2^{13-4} = 2^9$$



$$8. \frac{\sqrt[3]{\left(\frac{1}{3}\right)^6 \cdot \left(\frac{1}{4}\right)^9}}{\sqrt[4]{\left(\frac{1}{4}\right)^8 \cdot \left(\frac{1}{3}\right)^4}}$$

$$\frac{\sqrt[3]{\left(\frac{1}{3}\right)^6 \cdot \left(\frac{1}{4}\right)^9}}{\sqrt[4]{\left(\frac{1}{4}\right)^8 \cdot \left(\frac{1}{3}\right)^4}} = \frac{\sqrt[3]{\frac{1^6}{3^6} \cdot \frac{1^9}{4^9}}}{\sqrt[4]{\frac{1^8}{4^8} \cdot \frac{1^4}{3^4}}}$$

$$= \frac{\sqrt[3]{\frac{1}{3^6} \cdot \frac{1}{4^9}}}{\sqrt[4]{\frac{1}{4^8} \cdot \frac{1}{3^4}}}$$

$$= \frac{\sqrt[3]{\frac{1}{3^6 \cdot 4^9}}}{\sqrt[4]{\frac{1}{3^4 \cdot 4^8}}}$$

$$= \frac{\left(\frac{1}{3^6 \cdot 4^9}\right)^{\frac{1}{3}}}{\left(\frac{1}{3^4 \cdot 4^8}\right)^{\frac{1}{4}}}$$

$$= \frac{\frac{1^{\frac{1}{3}}}{(3^6 \cdot 4^9)^{\frac{1}{3}}}}{\frac{1^{\frac{1}{4}}}{(3^4 \cdot 4^8)^{\frac{1}{4}}}}$$

$$= \frac{\frac{1}{(3^6)^{\frac{1}{3}} \cdot (4^9)^{\frac{1}{3}}}}{\frac{1}{(3^4)^{\frac{1}{4}} \cdot (4^8)^{\frac{1}{4}}}}$$

$$\frac{1}{1}$$

$$\frac{1}{3^{\frac{4}{4}} \cdot 4^{\frac{8}{4}}}$$

9.  $\sqrt[2]{\sqrt[3]{\sqrt[2]{\left(\frac{1}{5}\right)^{24}}}}$