

FRACCIONES

Problema 30:

Resolver

$$\frac{2X\left(\frac{3}{2} - \frac{3}{0,4} \times \frac{0,5}{7}\right) : \frac{1}{5 + \frac{0,8}{3}}}{\left[\left(\frac{6}{7} - 1\frac{1}{4} \times \frac{3}{7}\right) \times \frac{4}{9} + \frac{1}{21}\right] \times \frac{3}{4}} \times \left(\frac{1}{9} + \frac{2}{5} + \frac{1}{45}\right)$$

Solución Problema 30:

Convertimos las expresiones decimales en fracciones ordinarias:

$$0,4 = \frac{4}{10} = \frac{\cancel{2} \times 2}{\cancel{2} \times 5} = \frac{2}{5}$$

$$0,5 = \frac{5}{10} = \frac{\cancel{5} \times 1}{\cancel{5} \times 2} = \frac{1}{2}$$

$$0,8 = \frac{8}{10} = \frac{\cancel{2} \times 4}{\cancel{2} \times 5} = \frac{4}{5}$$

Convertimos los números mixtos en fracciones ordinarias:

$$1\frac{1}{4} = \frac{4 + 1}{4} = \frac{5}{4}$$

A continuación sustituimos sus valores en la fracción original y operamos sobre ella:

$$\frac{2X\left(\frac{3}{2} - \frac{3}{\frac{2}{5}} \times \frac{1}{7}\right) : \frac{1}{5 + \frac{3}{\frac{4}{5}}}}{\left[\left(\frac{6}{7} - \frac{5}{4} \times \frac{3}{7}\right) \times \frac{4}{9} + \frac{1}{21}\right] \times \frac{3}{4}} \times \left(\frac{1}{9} + \frac{2}{5} + \frac{1}{45}\right)$$

$$\frac{2X\left(\frac{3}{2} - \frac{3x5}{2}X\frac{1}{7x2}\right) : \frac{1}{5 + \frac{3x5}{4}}}{\left[\left(\frac{6}{7} - \frac{5}{4}X\frac{3}{7}\right)X\frac{4}{9} + \frac{1}{21}\right]X\frac{3}{4}} X\left(\frac{1}{9} + \frac{2}{5} + \frac{1}{45}\right)$$

$$\frac{2X\left(\frac{3}{2} - \frac{3x5x1}{2x7x2}\right) : \frac{1}{5x4 + 3x5}}{\left[\left(\frac{6}{7} - \frac{5x3}{4x7}\right)X\frac{4}{9} + \frac{1}{21}\right]X\frac{3}{4}} X\left(\frac{1x5 + 2x9 + 1x1}{45}\right)$$

$$\frac{2X\left(\frac{42 - 15}{2x7x2}\right) : \frac{4}{35}}{\left[\left(\frac{6x4 - 5x3}{4x7}\right)X\frac{4}{9} + \frac{1}{21}\right]X\frac{3}{4}} X\left(\frac{24}{45}\right)$$

$$\frac{2X\left(\frac{27}{2x7x2}\right) : \frac{4}{35}}{\left[\left(\frac{24 - 15}{4x7}\right)X\frac{4}{9} + \frac{1}{21}\right]X\frac{3}{4}} X\left(\frac{24}{45}\right)$$

$$\frac{\frac{2x27}{2x7x2} : \frac{4}{35}}{\left[\left(\frac{9}{4x7}\right)X\frac{4}{9} + \frac{1}{21}\right]X\frac{3}{4}} X\left(\frac{3x8}{3x15}\right)$$

$$\frac{\frac{27}{7x2} : \frac{4}{35}}{\left[\frac{1}{7} + \frac{1}{21}\right]X\frac{3}{4}} X\left(\frac{8}{15}\right)$$

$$\frac{\frac{27x7x5}{7x2x4}}{\left[\frac{1x3 + 1}{21}\right]X\frac{3}{4}} X\left(\frac{8}{15}\right)$$

$$\frac{\frac{27x5}{2x4}}{\left[\frac{4}{21}\right]X\frac{3}{4}} X\left(\frac{8}{15}\right)$$

$$\frac{\frac{27x5}{2x4}}{\left[\frac{4}{3x7}\right]X\frac{3}{4}} X\left(\frac{8}{15}\right)$$

$$\frac{27 \times 5}{\frac{2 \times 4}{1} \times \frac{8}{15}}$$

$$\frac{9 \times 3 \times 5 \times 7}{2 \times 4} \times \left(\frac{8}{5 \times 3} \right) = 9 \times 7 = \mathbf{63}$$