

Operaciones con fracciones

1. Realiza las siguientes operaciones:

$$\frac{7}{3} - \frac{4}{5} + \frac{1}{9} - \frac{1}{2} =$$

$$3. \frac{1}{3} \cdot \frac{1}{4} \cdot \frac{2}{5} =$$

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

$$\frac{4}{3} - \frac{2}{5} : \left(\frac{1}{2} \right) - 4 \cdot \left(1 - \frac{1}{3} \right) =$$

$$-\frac{3}{7} + \left(\frac{2}{3} : \frac{1}{2} \right) - \frac{1}{2} \cdot 3 =$$

$$\frac{3}{5} - \frac{1}{2} : \left(3 - \frac{1}{4} \right) - \frac{1}{3} \cdot \frac{1}{4} =$$

$$\frac{3 - \frac{1}{5} + \frac{1}{3} : 2}{-3 \cdot \frac{1}{2} - 2 : \frac{3}{5}} =$$

$$\frac{3}{8} \cdot \left(\frac{5}{3} - \frac{1}{2} \right) - \frac{4}{11} \cdot \left(\frac{3}{4} - \frac{1}{5} \right) =$$

$$\left(\frac{2}{3} - \frac{7}{2} - \frac{5}{6} + \frac{1}{4} \right) : \left(-\frac{4}{3} + \frac{2}{3} - \frac{1}{6} \right) =$$

$$\frac{2 \cdot \left(\frac{3}{4} - \frac{1}{5} \right)}{-3 \cdot \left(\frac{3}{10} - \frac{8}{15} \right)} =$$

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

EJERCICIOS RESUELTOS

$$\frac{7}{3} - \frac{4}{5} + \frac{1}{9} - \frac{1}{2} = \frac{210}{90} - \frac{72}{90} + \frac{10}{90} - \frac{45}{90} = \frac{103}{90}$$

$$3. \frac{1}{3} \cdot \frac{1}{4} \cdot \frac{2}{5} = \frac{3 \cdot 2}{3 \cdot 4 \cdot 5} = \frac{6}{60} = \frac{1}{10}$$

$$\begin{aligned} \frac{3}{2} + \frac{1}{3} \cdot \left(\frac{1}{5} - \frac{1}{2} \right) - \frac{1}{4} &= \frac{3}{2} + \frac{1}{3} \cdot \left(\frac{2}{10} - \frac{5}{10} \right) - \frac{1}{4} = \frac{3}{2} + \frac{1}{3} \cdot \left(-\frac{3}{10} \right) - \frac{1}{4} \\ &= \frac{3}{2} \left(-\frac{1}{10} \right) - \frac{1}{4} = \frac{60}{40} - \frac{4}{40} - \frac{10}{40} = \frac{46}{40} = \frac{23}{20} \end{aligned}$$

$$\begin{aligned} \frac{4}{3} - \frac{2}{5} : \left(\frac{1}{2} \right) - 4 \cdot \left(1 - \frac{1}{3} \right) &= \frac{4}{3} - \frac{4}{5} - 4 \cdot \left(\frac{3}{3} - \frac{1}{3} \right) = \frac{4}{3} - \frac{4}{5} - 4 \cdot \left(\frac{2}{3} \right) = \frac{4}{3} - \frac{4}{5} - \frac{8}{3} \\ &= \frac{20}{15} - \frac{12}{15} - \frac{40}{15} = -\frac{32}{15} \end{aligned}$$

$$-\frac{3}{7} + \left(\frac{2}{3} : \frac{1}{2} \right) - \frac{1}{2} \cdot 3 = -\frac{3}{7} + \left(\frac{4}{3} \right) - \frac{3}{2} = -\frac{18}{42} + \frac{56}{42} - \frac{63}{42} = -\frac{25}{42}$$

$$\begin{aligned} \frac{3}{5} - \frac{1}{2} : \left(3 - \frac{1}{4} \right) - \frac{1}{3} \cdot \frac{1}{4} &= \frac{3}{5} - \frac{1}{2} : \left(\frac{12}{4} - \frac{1}{4} \right) - \frac{1}{12} = \frac{3}{5} - \frac{1}{2} : \left(\frac{11}{4} \right) - \frac{1}{12} \\ &= \frac{3}{5} - \frac{4}{22} - \frac{1}{12} = \frac{396}{660} - \frac{120}{660} - \frac{55}{660} = \frac{221}{660} \end{aligned}$$

$$\frac{3 - \frac{1}{5} + \frac{1}{3} : 2}{-3 \cdot \frac{1}{2} - 2 : \frac{3}{5}} = \frac{3 - \frac{1}{5} + \frac{1}{6}}{-\frac{3}{2} - \frac{10}{3}} = \frac{\frac{90}{30} - \frac{6}{30} + \frac{5}{30}}{-\frac{9}{6} - \frac{20}{6}} = \frac{\frac{89}{30}}{-\frac{29}{6}} = \frac{89}{30} : -\frac{29}{6} = -\frac{534}{870} =$$

$$= -\frac{89}{145}$$

$$\frac{3}{8} \cdot \left(\frac{5}{3} - \frac{1}{2}\right) - \frac{4}{11} \cdot \left(\frac{3}{4} - \frac{1}{5}\right) = \frac{3}{8} \cdot \left(\frac{10}{6} - \frac{3}{6}\right) - \frac{4}{11} \cdot \left(\frac{15}{20} - \frac{4}{20}\right) = \frac{3}{8} \cdot \frac{7}{6} - \frac{4}{11} \cdot \frac{11}{20}$$

$$= \frac{21}{48} - \frac{44}{220} = \frac{1155}{2640} - \frac{528}{2640} = \frac{627}{2640} = \frac{19}{80}$$

$$\left(\frac{2}{3} - \frac{7}{2} - \frac{5}{6} + \frac{1}{4}\right) : \left(-\frac{4}{3} + \frac{2}{3} - \frac{1}{6}\right) = \left(\frac{16}{24} - \frac{84}{24} - \frac{20}{24} + \frac{6}{24}\right) : \left(-\frac{8}{6} + \frac{4}{6} - \frac{1}{6}\right)$$

$$= \frac{-82}{24} : \frac{-5}{6} = \frac{-492}{-120} = \frac{41}{100}$$

$$\frac{2 \cdot \left(\frac{3}{4} - \frac{1}{5}\right)}{-3 \cdot \left(\frac{3}{10} - \frac{8}{15}\right)} = \frac{2 \cdot \left(\frac{15}{20} - \frac{4}{20}\right)}{-3 \cdot \left(\frac{9}{30} - \frac{16}{30}\right)} = \frac{2 \cdot \left(\frac{11}{20}\right)}{-3 \cdot \left(\frac{-7}{30}\right)} = \frac{\frac{22}{20}}{\frac{21}{30}} = \frac{22}{20} : \frac{21}{30} = \frac{22 \cdot 30}{20 \cdot 21} = \frac{660}{420}$$

$$= \frac{11}{7}$$

$$\begin{aligned}
 \frac{\frac{1}{2} - \frac{3}{2} \cdot \left(1 - \frac{2}{3}\right)^2 + 5}{\frac{2}{3}} &= \frac{\frac{1}{2} - \frac{3}{2} \cdot \left(\frac{3}{3} - \frac{2}{3}\right)^2 + 5}{\frac{2}{3}} = \frac{\frac{1}{2} - \frac{3}{2} \cdot \left(\frac{1}{3}\right)^2 + 5}{\frac{2}{3}} \\
 &= \frac{\frac{1}{2} - \frac{3}{2} \cdot \frac{1}{9} + 5}{\frac{2}{3}} = \frac{\frac{1}{2} - \frac{1}{6} + 5}{\frac{2}{3}} = \frac{\frac{3}{6} - \frac{1}{6} + \frac{30}{6}}{\frac{2}{3}} = \frac{\frac{32}{6}}{\frac{2}{3}} = \frac{32}{6} \cdot \frac{3}{2} \\
 &= \frac{32 \cdot 3}{6 \cdot 2} = \frac{96}{12} = 8
 \end{aligned}$$

Si tienes cualquier duda y quieres ponerte en contacto conmigo, puedes hacerlo escribiéndome a yosoytuprofe.miguel@gmail.com, o bien a través de mis perfiles en redes sociales (Facebook, Twitter, Instagram o Youtube).

Nos vemos en la siguiente clase.