

Ejercicio 58

$$\begin{aligned} \text{a) } \left(\frac{2}{3}\right)^2 - \left(\frac{1}{2}\right)^2 &= \\ &= \frac{4}{9} - \frac{1}{4} = \\ &= \frac{16}{36} - \frac{9}{36} = \frac{7}{36} \end{aligned}$$

$$\begin{aligned} \text{b) } \left(\frac{3}{4} - \frac{5}{4} : 2\right)^2 &= \\ &= \left(\frac{3}{4} - \frac{5}{8}\right)^2 = \\ &= \left(\frac{6}{8} - \frac{5}{8}\right)^2 = \\ &= \left(\frac{1}{8}\right)^2 = \frac{1}{64} \end{aligned}$$

$$\begin{aligned} \text{c) } \left(\frac{2}{3}\right)^2 + \left(\frac{2}{3}\right)^2 &= \\ &= \frac{4}{9} + \frac{4}{9} = \\ &= \frac{8}{9} \end{aligned}$$

$$\begin{aligned} \text{d) } \left(3 - \frac{7}{2}\right)^3 + 2^3 &= \\ &= \left(\frac{6}{2} - \frac{7}{2}\right)^3 + 2^3 = \\ &= \left(-\frac{1}{2}\right)^3 + 2^3 = \\ &= -\frac{1}{8} + 8 = \\ &= \frac{-1}{8} + \frac{64}{8} = \frac{63}{8} \end{aligned}$$

Ejercicio 59

$$\begin{aligned} \text{a) } \left(\frac{3}{4} \cdot \frac{2}{3}\right)^3 : \frac{5}{8} &= \\ &= \left(\frac{6}{12}\right)^3 : \frac{5}{8} = \\ &= \frac{216}{1728} : \frac{5}{8} = \\ &= \frac{1728}{8640} = \frac{1}{5} \end{aligned}$$

$$\begin{aligned} \text{b) } \left(1 - \frac{1}{3}\right)^3 - \left(1 + \frac{1}{3}\right)^3 &= \\ &= \left(\frac{3}{3} - \frac{1}{3}\right)^3 - \left(\frac{3}{3} + \frac{1}{3}\right)^3 = \\ &= \left(\frac{2}{3}\right)^3 - \left(\frac{4}{3}\right)^3 = \\ &= \frac{8}{27} - \frac{64}{27} = \\ &= \frac{-56}{27} \end{aligned}$$

$$\begin{aligned}
 c) \quad & \left(1 - \frac{1}{2}\right) \cdot \left(1 - \frac{1}{3}\right)^2 - \frac{2}{3^2} = \\
 & \left(\frac{2}{2} - \frac{1}{2}\right) \cdot \left(\frac{3}{3} - \frac{1}{3}\right)^2 - \frac{2}{3^2} = \\
 & = \frac{1}{2} \cdot \left(\frac{2}{3}\right)^2 - \frac{2}{3^2} = \\
 & = \frac{1}{2} \cdot \frac{4}{9} - \frac{2}{9} = \\
 & = \frac{4}{18} - \frac{2}{9} = \\
 & = \frac{4}{18} - \frac{4}{18} = \\
 & = \frac{0}{18} = 0
 \end{aligned}$$

$$\begin{aligned}
 d) \quad & \left(\frac{1}{2}\right)^4 - \left(3 - \frac{7}{3}\right)^3 = \\
 & = \left(\frac{1}{2}\right)^4 - \left(\frac{9}{3} - \frac{7}{3}\right)^3 = \\
 & = \left(\frac{1}{2}\right)^4 - \left(\frac{2}{3}\right)^3 = \\
 & = \frac{1}{16} - \frac{8}{27} = \\
 & = \frac{27}{432} - \frac{128}{432} = \frac{-101}{432}
 \end{aligned}$$