

Examen 3º ESO. Fracciones y Decimales.

1. a) $3,1213141516\dots \in \mathbb{I}$ b) $2,2222\dots \in \mathbb{Q}$ c) $-4 \in \mathbb{Z}$
 d) $\frac{5}{6} \in \mathbb{Q}$ e) $\sqrt{3} \in \mathbb{I}$ f) $51 \in \mathbb{N}$ g) $3,01020304\dots \in \mathbb{I}$
 h) $-\frac{2}{5} \in \mathbb{Q}$ i) $3,45 \in \mathbb{Q}$

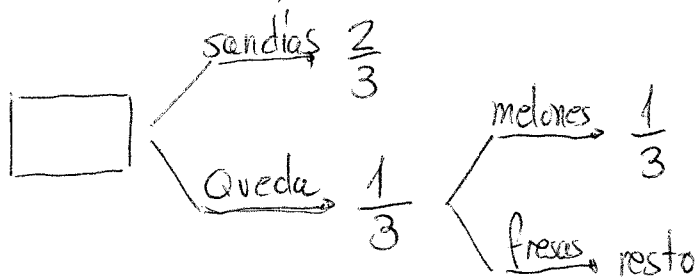
2. $\frac{3}{4}, -\frac{1}{2}, \frac{4}{5}, \frac{2}{3}, -\frac{1}{3}, 1 \rightarrow \frac{45}{60}, -\frac{30}{60}, \frac{48}{60}, \frac{40}{60}, -\frac{20}{60}, \frac{60}{60}$
 $\Rightarrow -\frac{1}{2} < -\frac{1}{3} < \frac{2}{3} < \frac{3}{4} < \frac{4}{5} < 1$

3. $\frac{13}{9} = \frac{13}{3^2} \Rightarrow$ periódico $\frac{4}{5} \Rightarrow$ exacto $\frac{19}{20} = \frac{19}{2^2 \cdot 5} \Rightarrow$ exacto
 $\frac{3381}{35} = \frac{3 \cdot 7^2 \cdot 23}{5 \cdot 7} = \frac{3 \cdot 7 \cdot 23}{5} \Rightarrow$ exacto

4. a) $2 - \frac{2}{3} : \frac{5}{2} + (-2) - \left(\frac{3}{4} + \frac{1}{2}\right) = 2 - \frac{4}{15} - 2 - \left(\frac{3}{4} + \frac{2}{4}\right) =$
 $= 2 - \frac{4}{15} - 2 - \frac{5}{4} = -\frac{4}{15} - \frac{5}{4} = -\frac{16}{60} - \frac{75}{60} = -\frac{91}{60}$
 b) $\left(\frac{1}{6} - 1\right) \cdot \left(3 - \frac{2}{5}\right) - \left(\frac{1}{3} - \frac{1}{2}\right) = \left(-\frac{5}{6}\right) \cdot \left(\frac{13}{5}\right) - \left(\frac{2}{6} - \frac{3}{6}\right) = -\frac{13}{6} - \left(-\frac{1}{6}\right) =$
 $= -\frac{13}{6} + \frac{1}{6} = -\frac{12}{6} = -2$

c) $\frac{\frac{1}{8} + \frac{1}{2} \cdot \frac{3}{4}}{(-3) \left(\frac{2}{3} + \frac{1}{2}\right)} = \frac{\frac{1}{8} + \frac{3}{8}}{(-3) \left(\frac{4}{6} + \frac{3}{6}\right)} = \frac{\frac{4}{8}}{(-3) \cdot \frac{7}{6}} = \frac{\frac{1}{2}}{-\frac{7}{2}} = -\frac{2}{7} = -\frac{1}{7}$

5.



a) Sandías $\frac{2}{3}$

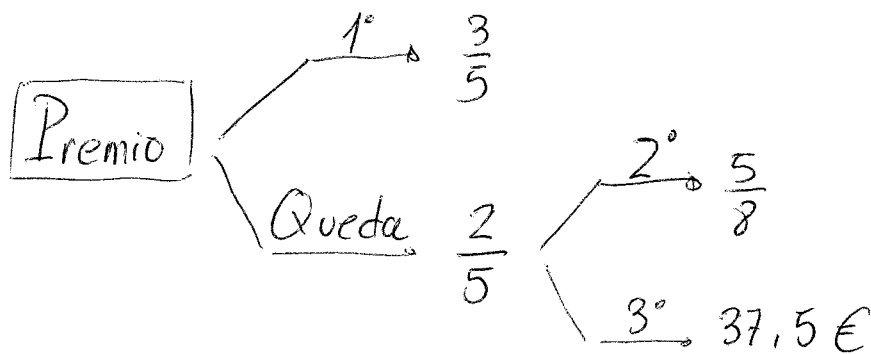
Melones $\frac{1}{3}$ de $\frac{1}{3} = \frac{1}{3} \cdot \frac{1}{3} = \frac{1}{9}$

$1 - \left(\frac{2}{3} + \frac{1}{9}\right) = 1 - \left(\frac{6}{9} + \frac{1}{9}\right) = 1 - \frac{7}{9} = \frac{2}{9}$

b) frescas son $\frac{2}{9}$ que son $200 \text{ m}^2 \Rightarrow 200 : 2 = 100; 100 \times 9 = 900 \text{ m}^2 \text{ total}$

Sandías son $\frac{2}{3}$ de $900 = \frac{2}{3} \cdot 900 = \underline{\underline{600 \text{ m}^2}}$

6.



3° se lleva $\frac{3}{8}$ de $\frac{2}{5} = \frac{3}{8} \cdot \frac{2}{5} = \frac{6}{40} = \frac{3}{20} \Rightarrow \frac{3}{20}$ son $37,5$

$$\begin{array}{r} 37,5 \overline{) 3} \\ \underline{07} \\ 15 \\ \underline{0} \end{array} \quad 12,5 \times 20 = 250 \text{ € era el premio}$$

7. a) $0,54 = \frac{54}{100} = \left(\frac{27}{50}\right)$

b) $3,72 = \left(\frac{41}{11}\right)$

$$N = 3,7272 \dots$$

$$100N = 372,72 \dots$$

$$\underline{99N = 372 - 3} \Rightarrow N = \frac{369}{99} = \frac{123}{33} = \frac{41}{11}$$

c) $32,4\overline{5} \quad ; \quad N = 32,4555 \dots$

$$10N = 324,555 \dots$$

$$100N = 3245,55 \dots$$

$$\underline{90N = 3245 - 324} \Rightarrow N = \left(\frac{2921}{90}\right)$$