

Control temas 1 y 2 - Matemáticas 2ºES

$$1. \quad \left. \begin{array}{l} 360 = 2^3 \cdot 3^2 \cdot 5 \\ 72 = 2^3 \cdot 3^2 \end{array} \right\} \begin{array}{l} \text{mcd}(360, 72) = 2^3 \cdot 3^2 = 72 \\ \text{mcm}(360, 72) = 2^3 \cdot 3^2 \cdot 5 = 360 \end{array}$$

$$\left. \begin{array}{l} 220 = 2^2 \cdot 5 \cdot 11 \\ 140 = 2^2 \cdot 5 \cdot 7 \\ 360 = 2^3 \cdot 3^2 \cdot 5 \end{array} \right\} \begin{array}{l} \text{mcd}(220, 140, 360) = 2^2 \cdot 5 = 20 \\ \text{mcm}(220, 140, 360) = 2^3 \cdot 3^2 \cdot 5 \cdot 7 \cdot 11 \\ = 27.720 \end{array}$$

$$2 \text{ a) } (-11) \cdot [10 + (-7)] + 36 : [-1 - (-10)] =$$

$$(-11) \cdot (+3) + 36 : (+9) =$$

$$-33 + 4 = \boxed{-29}$$

$$b) \quad 32 : [(-19) + 3] - 24 : [-11 - (-5)] =$$

$$32 : (-16) - 24 : (-6) =$$

$$-2 + 4 = \boxed{+2}$$

$$3 \rightarrow \frac{3}{4}, \frac{2}{3}, \frac{7}{8}, \frac{5}{6} \quad \text{mcm}(4, 3, 8, 6) = 24$$

$$\frac{18}{24}, \frac{16}{24}, \frac{21}{24}, \frac{20}{24} \quad \frac{2}{3} < \frac{3}{4} < \frac{5}{6} < \frac{7}{8}$$

$$4 \rightarrow \frac{1}{3} \cdot \frac{3}{2} + \frac{1}{5} : 2 + 4 \cdot \frac{3}{2} =$$

$$\frac{3}{6} + \frac{1}{10} + \frac{12}{2} = \frac{1}{2} + \frac{1}{10} + 6 = \frac{5}{10} + \frac{1}{10} + \frac{60}{10}$$

$$= \frac{66}{10} = \boxed{\frac{33}{5}}$$

$$b \rightarrow (-2) \cdot \left[\left(-\frac{3}{4} - 1 \right) \cdot \frac{2}{3} \right] : \left(\frac{2}{6} : \frac{1}{5} \right) =$$

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

$$(-2) \cdot \left[-\frac{7}{4} \cdot \frac{2}{3} \right] : 2 = (-2) \cdot \left(-\frac{14}{12} \right) \cdot 2 =$$

$$(-2) \cdot \left(-\frac{7}{6} \right) \cdot 2 = \frac{14}{6} \cdot 2 = \frac{28}{6} = \frac{14}{3}$$

$$c \rightarrow \left[- \left(\frac{3}{5} - 1 \right) + 4 \right] \cdot (-2) + \frac{4}{5} : \frac{1}{5} =$$

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

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

$$\left(\frac{22}{5} \right) \cdot (-2) + 4 = -\frac{44}{5} + 4 = \boxed{-\frac{24}{5}}$$

$$d \rightarrow \left(-\frac{2}{3} \right) : \left[\left(\frac{1}{3} \right)^3 - \frac{1}{2} \right] \cdot \left(\frac{5}{9} - \frac{1}{6} \right) =$$

$$\left(-\frac{2}{3} \right) : \left[\frac{1}{27} - \frac{1}{2} \right] \cdot \left(\frac{10}{18} - \frac{3}{18} \right) =$$

$$\left(-\frac{2}{3} \right) : \left(-\frac{25}{54} \right) \cdot \frac{7}{8} = \frac{108}{75} \cdot \frac{7}{18} =$$

$$\frac{36}{25} \cdot \frac{7}{18} = \frac{252}{450} = \boxed{\frac{44}{25}}$$

$$5 \rightarrow 12\overline{)5} = \frac{125-12}{9} = \frac{113}{9}$$

$$2\overline{)74} = \frac{274}{100} = \frac{137}{50}$$

$$- 7\overline{)05} = - \frac{705}{100} = - \frac{141}{20}$$

$$0\overline{)45} = \frac{45-4}{90} = \frac{41}{90}$$

$$6 \rightarrow \left. \begin{array}{l} 6 = 2 \cdot 3 \\ 15 = 3 \cdot 5 \\ 36 = 2^2 \cdot 3^2 \end{array} \right\} \text{mcm}(6, 15, 36) = 2^2 \cdot 3^2 \cdot 5 = \\ = 4 \cdot 9 \cdot 5 = 180 \text{ mi}$$

En 180 minutos vuelven a coincidir las alarmas

$$7 \rightarrow \frac{2}{3} \text{ en entradas cine}$$

$$\frac{1}{2} \text{ de } \frac{1}{3} \text{ en pabmitas} = \frac{1}{6} \text{ en pabmitas}$$

$$\text{Resto} \rightarrow 6 \text{ €}$$

$$a) \frac{2}{3} + \frac{1}{6} = \frac{4+1}{6} = \frac{5}{6}$$

$$b) 36 \text{ Euros tenia}$$

$$\text{Resto } \frac{6}{6} - \frac{5}{6} = \boxed{\frac{1}{6}}$$

$$c) \frac{2}{3} \text{ de } 36 = 24 \text{ € cine}$$

$$d) \frac{1}{6} \text{ de } 36 = 6 \text{ € pabmitas}$$