

	Nombre:	RESOLUCIÓN			1ª Evaluación	Nota
	Curso:	Grupo:	Fecha:	Control Operaciones		
	2º ESO			Cada ejercicio correcto vale un punto		

Calcula paso a paso las siguientes operaciones combinadas con números enteros, fracciones y potencias.

$$I) -7 - 15 + 8 + 10 - 9 - 6 + 11 = (8 + 10 + 11) - (7 + 15 + 9 + 6) = 29 - 37 = -8$$

$$II) 7 \cdot (28 - 6 \cdot 4) - (3 \cdot 4 + 4) : 8 + 2 = 7 \cdot (28 - 24) - (12 + 4) : 8 + 2 = 7 \cdot 4 - 16 : 8 + 2 = 28 - 2 + 2 = 28$$

$$III) [(-5) - (-3)] - [-(-4) - (-7)] = [-5 + 3] - [4 + 7] = -2 + 11 = 9$$

$$IV) -(-2) \cdot (-(-3)^2) \cdot (-(-(-4)^0)) \cdot (-1) = 2 \cdot (-9) \cdot (-1) = 18$$

$$V) \frac{2}{3} + \frac{5}{6} + \frac{7}{15} = \frac{10 \cdot 2}{30} + \frac{5 \cdot 5}{30} + \frac{7 \cdot 2}{30} = \frac{20}{30} + \frac{25}{30} + \frac{14}{30} = \frac{20 + 25 + 14}{30} = \frac{69}{30} = \frac{23}{10}$$

$$VI) \frac{12}{15} - 3 + \frac{40}{12} - \frac{10}{8} = \frac{4}{5} - 3 + \frac{10}{3} - \frac{5}{4} = \frac{4 \cdot 12}{60} - \frac{3 \cdot 60}{60} + \frac{10 \cdot 20}{60} - \frac{5 \cdot 15}{60} = \frac{48}{60} - \frac{180}{60} + \frac{200}{60} - \frac{75}{60} = \frac{-7}{60}$$

Simplificamos antes del mcm

$$VII) \frac{5}{2} + 2 \cdot \left(7 - \frac{1}{3}\right) - 8 = \frac{5}{2} + 2 \cdot \left(\frac{7 \cdot 3}{3} - \frac{1}{3}\right) - 8 = \frac{5}{2} + 2 \cdot \left(\frac{21}{3} - \frac{1}{3}\right) - 8 = \frac{5}{2} + 2 \cdot \left(\frac{20}{3}\right) - 8 = \frac{5}{2} + \frac{40}{3} - 8 = \frac{3 \cdot 5}{6} + \frac{2 \cdot 40}{6} - \frac{6 \cdot 8}{6} = \frac{15}{6} + \frac{80}{6} - \frac{48}{6} = \frac{47}{6}$$

$$VIII) 3 + \frac{1}{4} \left[\frac{1}{2} + 3 \cdot \left(4 - \frac{2}{3}\right) \right] = 3 + \frac{1}{4} \left[\frac{1}{2} + 3 \cdot \left(\frac{4 \cdot 3}{3} - \frac{2}{3}\right) \right] = 3 + \frac{1}{4} \left[\frac{1}{2} + 3 \cdot \left(\frac{12}{3} - \frac{2}{3}\right) \right] = 3 + \frac{1}{4} \left[\frac{1}{2} + 3 \cdot \left(\frac{10}{3}\right) \right] = 3 + \frac{1}{4} \left[\frac{1}{2} + 10 \right] = 3 + \frac{1}{4} \left[\frac{1}{2} + \frac{20}{2} \right] = 3 + \frac{1}{4} \left[\frac{21}{2} \right] = 3 + \frac{21}{8} = \frac{24}{8} + \frac{21}{8} = \frac{45}{8}$$

$$IX) (5^8 \cdot 5^4) : (5^2)^5 = 5^{8+4} : 5^{2 \cdot 5} = 5^{12} : 5^{10} = 5^{12-10} = 5^2$$

$$X) [2^9 : (2^3)^2] \cdot 5^3 = (2^9 : 2^{3 \cdot 2}) \cdot 5^3 = (2^9 : 2^6) \cdot 5^3 = 2^{9-6} \cdot 5^3 = 2^3 \cdot 5^3 = (2 \cdot 5)^3 = 10^3$$

$$Bonus) [(m^8 : m^6)^2]^5 = [(m^{8-6})^2]^5 = [(m^2)^2]^5 = [m^{2 \cdot 2}]^5 = (m^4)^5 = m^{4 \cdot 5} = m^{20}$$