I.E.S. ABYLA Departamento de Matemáticas	Nombre:		EVAL 1	Nota
	Curso:	**4º ESO B**	Control Operaciones	
	Fecha:	25 de septiembre de 2024	Cada ejercicio vale 1 punto	

1.– Realiza paso a paso las siguientes operaciones e indica el resultado en la hoja de examen:

a) $-(-2)\cdot\left(-(-3)^2\right)\cdot\left(-\left(-(-4)^0\right)\right)\cdot(-1)=$

b) $0{,}2+0{,}\widehat{2}+0{,}0\widehat{2}=$

c) $-\left[(-2)^2-(-3)\cdot(-1)^4\right]+\sqrt[3]{(-2)^2\cdot 5+7}-\left[(-4)(-3+5)+1\right]^2=$

d) $\frac{1}{6}\left(\frac{5}{6}-\frac{1}{3}\right)^2-\frac{2}{3}\cdot\left(\frac{3}{4}-\frac{1}{2}\right)^2=$

e) $\left(\frac{\frac{2}{5}:\frac{-1}{3}}{1+\frac{4}{5}}-\frac{2-\frac{8}{3}}{4\cdot\frac{7}{2}}\right)\cdot\frac{4}{7}=$

f) $0{,}0\widehat{9}+\cfrac{1}{3+\cfrac{2}{3+\frac{1}{2}}}=$

g) $\left[\sqrt{64}-(-2)\right]^2-2\cdot\left[5\cdot\sqrt{49}-\left(3^2-\sqrt{16}\right)^2\right]=$

h) $3\cdot 2^3-\sqrt{9+5\cdot 8}+\left(4^2+4\right):\sqrt{100}-7^{253}:7^{250}=$

i) $\left[\sqrt{36}:3\cdot\left(3^2-5\right)+4^2\cdot\left(\sqrt{16}-2\right):2\right]:\left(16^2:\sqrt{16}\cdot 8^3\right)^0=$

j) $\left(\frac{5}{6}-\frac{1}{4}\right):\left[\frac{3}{4}-\left(\frac{1}{5}+\frac{1}{3}\right)\cdot\left(\frac{3}{4}-\frac{1}{8}\right)\right]-\frac{6}{5}=$

Bonus) $\sqrt{-\frac{5}{9}+1}\cdot\left(-2+\frac{5}{4}\right)-\left(\frac{1}{4}-1\right)\cdot\left(-\frac{3}{2}\right)^{-2}=$

I.E.S. ABYLA Departamento de Matemáticas	Nombre:	**SOLUCIONES**	EVAL 1	Nota
	Curso:	**4º ESO B**	Control Operaciones	
	Fecha:	25 de septiembre de 2024	Cada ejercicio vale 1 punto	

1.– Realiza paso a paso las siguientes operaciones:

a) $-(-2)\cdot\left(-(-3)^2\right)\cdot\left(-\left(-(-4)^0\right)\right)\cdot(-1)=2\cdot 9\cdot 1=18$

b) $0{,}2+0{,}\widehat{2}+0{,}0\widehat{2}=\frac{2}{10}+\frac{2-0}{9}+\frac{2-0}{90}=\frac{1}{5}+\frac{2}{9}+\frac{1}{45}=\frac{9+10+1}{45}=\frac{20}{45}=\frac{4}{9}$

c) $-\left[(-2)^2-(-3)\cdot(-1)^4\right]+\sqrt[3]{(-2)^2\cdot 5+7}-\left[(-4)(-3+5)+1\right]^2=-[4+3]+\sqrt[3]{4\cdot 5+7}-[-8+1]^2=$
$=-7+\sqrt[3]{27}-49=-7+3-49=-53$

d) $\frac{1}{6}\left(\frac{5}{6}-\frac{1}{3}\right)^2-\frac{2}{3}\cdot\left(\frac{3}{4}-\frac{1}{2}\right)^2=\frac{1}{6}\left(\frac{5}{6}-\frac{2}{6}\right)^2-\frac{2}{3}\cdot\left(\frac{3}{4}-\frac{2}{4}\right)^2=\frac{1}{6}\left(\frac{3}{6}\right)^2-\frac{2}{3}\cdot\left(\frac{1}{4}\right)^2=\frac{1}{6}\left(\frac{1}{2}\right)^2-\frac{2}{3}\cdot\left(\frac{1}{4}\right)^2=$
$=\frac{1}{6}\cdot\frac{1}{4}-\frac{2}{3}\cdot\frac{1}{16}=\frac{1}{24}-\frac{2}{48}=\frac{1}{24}-\frac{1}{24}=0$

e) $\left(\frac{2}{5}:\frac{-1}{3}\over 1+\frac{4}{5}-\frac{2-\frac{8}{3}}{4\cdot\frac{7}{2}}\right)\cdot\frac{4}{7}=\left(\frac{-\frac{6}{5}}{\frac{5}{5}+\frac{4}{5}}-\frac{\frac{6}{3}-\frac{8}{3}}{14}\right)\cdot\frac{4}{7}=\left(\frac{-\frac{6}{5}}{\frac{9}{5}}-\frac{-\frac{2}{3}}{14}\right)\cdot\frac{4}{7}=\left(\frac{-6}{9}+\frac{1}{21}\right)\cdot\frac{4}{7}=\left(-\frac{2}{3}+\frac{1}{21}\right)\cdot\frac{4}{7}=$
$=\left(-\frac{14}{21}+\frac{1}{21}\right)\cdot\frac{4}{7}=\left(-\frac{13}{21}\right)\cdot\frac{4}{7}=-\frac{52}{147}$

f) $0{,}0\widehat{9}+\frac{1}{3+\frac{2}{3+\frac{1}{2}}}=\frac{1}{10}+\frac{1}{3+\frac{2}{\frac{7}{2}}}=\frac{1}{10}+\frac{1}{3+\frac{4}{7}}=\frac{1}{10}+\frac{1}{\frac{25}{7}}=\frac{1}{10}+\frac{7}{25}=\frac{5}{50}+\frac{14}{50}=\frac{19}{50}$

g) $\left[\sqrt{64}-(-2)\right]^2-2\cdot\left[5\cdot\sqrt{49}-\left(3^2-\sqrt{16}\right)^2\right]=[8+2]^2-2\cdot\left[5\cdot 7-(9-4)^2\right]=10^2-2\cdot\left[35-5^2\right]=$
$=100-2\cdot[35-25]=100-2\cdot[10]=100-20=80$

h) $3\cdot 2^3-\sqrt{9+5\cdot 8}+\left(4^2+4\right):\sqrt{100}-7^{253}:7^{250}=3\cdot 8-\sqrt{9+40}+\left(16+4\right):10-7^3=$

$=40-\sqrt{49}+20:10-343=40-7+2-343=-308$

i) $\left[\sqrt{36}:3\cdot\left(3^2-5\right)+4^2\cdot\left(\sqrt{16}-2\right):2\right]:\left(16^2:\sqrt{16}\cdot 8^3\right)^0=\left[6:3\cdot(9-5)+16\cdot(4-2):2\right]:1=$

$=\left[2\cdot 4+16\cdot 2:2\right]=8+16=24$

j) $\left(\frac{5}{6}-\frac{1}{4}\right):\left[\frac{3}{4}-\left(\frac{1}{5}+\frac{1}{3}\right)\cdot\left(\frac{3}{4}-\frac{1}{8}\right)\right]-\frac{6}{5}=\frac{7}{12}:\left[\frac{3}{4}-\frac{8}{15}\cdot\frac{5}{8}\right]-\frac{6}{5}=\frac{7}{12}:\left[\frac{3}{4}-\frac{1}{3}\right]-\frac{6}{5}=\frac{7}{12}:\frac{5}{12}-\frac{6}{5}=\frac{7}{5}-\frac{6}{5}=\frac{1}{5}$

Bonus) $\sqrt{-\frac{5}{9}+1}\cdot\left(-2+\frac{5}{4}\right)-\left(\frac{1}{4}-1\right)\cdot\left(-\frac{3}{2}\right)^{-2}=\sqrt{-\frac{5}{9}+\frac{9}{9}}\cdot\left(-\frac{8}{4}+\frac{5}{4}\right)-\left(\frac{1}{4}-\frac{4}{4}\right)\cdot\left(-\frac{2}{3}\right)^2=$

$=\sqrt{\frac{4}{9}}\cdot\left(-\frac{3}{4}\right)-\left(-\frac{3}{4}\right)\cdot\frac{4}{9}=\frac{2}{3}\cdot\left(-\frac{3}{4}\right)-\left(-\frac{3}{4}\right)\cdot\frac{4}{9}=-\frac{6}{12}+\frac{12}{36}=-\frac{6}{12}+\frac{4}{12}=-\frac{2}{12}=-\frac{1}{6}$