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	Curso:	3° ESO	<b>Control Operaciones</b>
	Fecha:	22 de octubre de 2021	Opción A

a) 
$$1 - \left[2^3 \cdot \left(5 - 3^2\right)\right] : 32 =$$

b) 
$$(-5)\cdot 3^2 - \sqrt{49}: \lceil (-5)\cdot (-2) - 3^1 \rceil =$$

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

d) 
$$-4\cdot(4-2)^{-2}+(-3+1)^3+(2\cdot3)^2:(-1-5)-4:(2-3)^7=$$

e) 
$$\left[\sqrt{36}:3(3^2-5)+4^2(\sqrt{16}-2):2\right]:(16^2:\sqrt{16}\cdot8^3)^0=$$

**2.-** Realiza paso a paso las operaciones con fracciones:

a) 
$$\frac{11}{36} - \frac{5}{12} + \frac{4}{9} - \frac{7}{24} =$$

b) 
$$3 + \left[ \frac{1}{2} + 3 \cdot \left( 4 - \frac{2}{3} \right) \right] =$$

c) 
$$\left(\frac{3}{2} - \frac{7}{4}\right)^3 : \left(\frac{9}{8} - \frac{5}{4}\right)^2 =$$

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

$$e) \ 7 + \frac{6}{5 + \frac{4}{3}} =$$

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

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a) 
$$2\cdot 3^2 - 4^2 : 2 + 3^2 - (-1)^4 =$$

b) 
$$\sqrt{36} - 3(3-5) + 3^2 - 4^0 + 5^9 : 5^7 =$$

c) 
$$27:(-3)^3+4^{13}:[(-4)^4]^3+\sqrt{81}:3=$$

d) 
$$(15-4)+3-(12-5\cdot2)+(5+16:4)-5+(10-2^3)=$$

e) 
$$-\left[\left(-2\right)^{2}-\left(-3\right)\cdot\left(-1\right)^{4}\right]+\sqrt[3]{\left(-2\right)^{2}\cdot5+7}-\left[\left(-4\right)\left(-3+5\right)+1\right]^{2}=$$

**2.-** Realiza paso a paso las operaciones con fracciones:

a) 
$$\frac{17}{40} - \frac{11}{30} + \frac{13}{20} - \frac{9}{8} =$$

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

c) 
$$\left(\frac{9}{8} - \frac{5}{4}\right)^2 : \left(\frac{3}{2} - \frac{7}{4}\right)^3 =$$

d) 
$$\sqrt{\left(\frac{3}{2} + \frac{5}{4} - \frac{29}{4}\right) : \left(-\frac{1}{2}\right)} - \left(\frac{3}{2}\right)^3 =$$

$$e) 5 + \frac{4}{3 + \frac{2}{5}} =$$

$$\frac{2}{3} \left( \frac{2 - \frac{1}{4}}{5 - 2} - \frac{\frac{2}{5} - 1}{\frac{1}{4} + 3} \right) =$$

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a) 
$$1-(-2)^3-[-(-3)^3]-(-(-2)^3)=$$

b) 
$$-4\cdot(4-2)^2+(-3+1)^3+(2\cdot3)^2:(-1-5)-4:(2-3)^7=$$

c) 
$$(-2)^3 - (-3)^2 + [(-1)(-3)]^2 + [(-10):5]^3 + 4^2 =$$

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

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

**2.-** Realiza paso a paso las operaciones con fracciones:

a) 
$$\frac{12}{15} - 3 + \frac{40}{12} - \frac{10}{8} =$$

b) 
$$4 - \frac{1}{3} \left[ 7 - \frac{1}{2} \left( -\frac{2}{5} + 3 - \frac{7}{2} \right) \right] =$$

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

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

$$e) \ 1 + \frac{7}{6 + \frac{3}{5 + \frac{1}{3}}} =$$

**Bonus:** Resuelve paso a paso:  $\frac{\left(\frac{4}{5}:\frac{4}{9}\right)}{\left(\frac{-3}{2}:\frac{3}{7}\right)}:\frac{\left(\frac{-6}{7}:\frac{6}{2}\right)}{\left(\frac{8}{9}:\frac{8}{5}\right)} =$ 

ABYLA B	Nombre:		
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a) 
$$-(-8)\cdot[-(-3)^3]\cdot\{-[-(-4)^0]\}:(-2)^3=$$

b) 
$$(5+3\cdot2:6-4)\cdot(4:2-3+6):(7-8:2-2)^2=$$

c) 
$$6 - \left\{3 - \left[-13 + 3 \cdot (-2)^2\right]^5\right\} - \left[4 - (-2)^3\right] + 6 =$$

d) 
$$2^3 \cdot \sqrt{4} - 3^2 : \sqrt{9} + 5^2 : \sqrt{25} =$$

$$e) \ \left\{1 + \left\lceil \left(2^3\right)^2 - 5 \cdot \left(1 + 3^2\right) \right\rceil \right\} - \left[-2 - 4 \cdot \left(-1\right)^5\right] + \sqrt{2^3 - \left(-1\right)^7} = 0$$

a) 
$$3 - \frac{11}{30} + \frac{13}{20} - \frac{9}{4} =$$

b) 
$$2 + \frac{2}{7} \left[ 1 - \frac{21}{4} : \left( \frac{3}{5} - 2 - \frac{7}{2} \right) \right] =$$

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

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

$$e) \ 1 - \frac{2}{3 + \frac{4}{5 + \frac{4}{3}}} =$$

**Bonus.-** Resuelve paso a paso: 
$$\frac{\left(\frac{4}{5}:\frac{4}{9}\right)}{\left(\frac{-3}{2}:\frac{3}{7}\right)}:\frac{\left(\frac{-6}{7}:\frac{6}{2}\right)}{\left(\frac{8}{9}:\frac{8}{5}\right)} =$$

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	Curso:	3° ESO	Control Operaciones
	Fecha:	29 de Octubre de 2021	Opción E

a) 
$$1 - \left[ 2^3 \cdot \left( 5 - 3^2 \right) \right] : 32 =$$

b) 
$$\sqrt{36} - 3(3-5) + 3^2 - 4^0 + 5^9 : 5^7 =$$

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

d) 
$$(15-4)+3-(12-5\cdot2)+(5+16:4)-5+(10-2^3)=$$

e) 
$$\left[\sqrt{36}:3(3^2-5)+4^2(\sqrt{16}-2):2\right]:(16^2:\sqrt{16}\cdot8^3)^0=$$

a) 
$$\left(\frac{3}{2} - \frac{7}{4}\right)^3 : \left(\frac{9}{8} - \frac{5}{4}\right)^2 =$$

b) 
$$3 + \frac{1}{4} \left[ \frac{1}{2} + 3 \cdot \left( 4 - \frac{2}{3} \right) \right] =$$

c) 
$$\left[\frac{2}{7} - \left(\frac{1}{4} - \frac{2}{5}\right) : \left(\frac{3}{10} - 1\right)\right] : \left(\frac{1}{2} - \frac{3}{14}\right) =$$

d) 
$$2 \cdot \sqrt{\frac{13}{9} + \frac{4}{3}} - \left[ 3 - \left( 1 + \frac{4}{5} \right) \cdot 2 \right] \div 2 + \frac{1}{3} =$$

$$e) \ 1 + \frac{1}{1 + \frac{1}{1 + \frac{2}{3}}} =$$

**Bonus:** Resuelve paso a paso: 
$$\frac{\left(\frac{3}{4} + \frac{5}{2}\right) : \frac{1}{2} - 2 \cdot \left(\frac{1}{2} - \frac{1}{4}\right)}{\frac{3}{4} \cdot \left[\frac{7}{3} - \left(\frac{1}{2} + 2 \cdot \frac{1}{4}\right)\right]} =$$

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a) 
$$1 - \left[2^3 \cdot \left(5 - 3^2\right)\right] : 32 = 2$$

b) 
$$(-5)\cdot 3^2 - \sqrt{49}: \lceil (-5)\cdot (-2) - 3^1 \rceil = -46$$

c) 
$$\left[ 3 \cdot \left( 5^2 - \sqrt{16} \right) \cdot 2^2 \right] : \left( 2 \cdot \sqrt{49} \right) = 18$$

d) 
$$-4\cdot(4-2)^2+(-3+1)^3+(2\cdot3)^2:(-1-5)-4:(2-3)^7=-26$$

e) 
$$\left[\sqrt{36}:3\cdot(3^2-5)+4^2\cdot(\sqrt{16}-2):2\right]:\left(16^2:\sqrt{16}\cdot8^3\right)^0=24$$

**2.-** Realiza paso a paso las operaciones con fracciones:

a) 
$$\frac{11}{36} - \frac{5}{12} + \frac{4}{9} - \frac{7}{24} = \frac{1}{24}$$

b) 
$$3 + \left[ \frac{1}{2} + 3 \cdot \left( 4 - \frac{2}{3} \right) \right] = \frac{27}{2}$$

c) 
$$\left(\frac{3}{2} - \frac{7}{4}\right)^3 : \left(\frac{9}{8} - \frac{5}{4}\right)^2 = -1$$

d) 
$$\sqrt{-\frac{5}{9}+1} \cdot \left(-2+\frac{5}{4}\right) - \left(\frac{1}{4}-1\right) \cdot \left(-\frac{2}{3}\right)^2 = -\frac{1}{6}$$

e) 
$$7 + \frac{6}{5 + \frac{4}{3}} = \frac{151}{19}$$

$$\left(\frac{\frac{2}{5} : \frac{-1}{3}}{1 + \frac{4}{5}} - \frac{2 - \frac{8}{3}}{4 \cdot \frac{7}{2}}\right) \frac{4}{7} = -\frac{52}{147}$$

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a) 
$$2 \cdot 3^2 - 4^2 : 2 + 3^2 - (-1)^4 = 18$$

b) 
$$\sqrt{36} - 3(3-5) + 3^2 - 4^0 + 5^9 : 5^7 = 45$$

c) 
$$27:(-3)^3+4^{13}:[(-4)^4]^3+\sqrt{81}:3=6$$

d) 
$$(15-4)+3-(12-5\cdot2)+(5+16\cdot4)-5+(10-2^3)=18$$

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

**2.-** Realiza paso a paso las operaciones con fracciones:

a) 
$$\frac{17}{40} - \frac{11}{30} + \frac{13}{20} - \frac{9}{8} = -\frac{5}{12}$$

b) 
$$\frac{5}{2} - \left[1 - \left(\frac{2}{3} - \frac{1}{4}\right)\right] = \frac{23}{12}$$

c) 
$$\left(\frac{9}{8} - \frac{5}{4}\right)^2 : \left(\frac{3}{2} - \frac{7}{4}\right)^3 = -1$$

d) 
$$\sqrt{\left(\frac{3}{2} + \frac{5}{4} - \frac{29}{4}\right) : \left(-\frac{1}{2}\right)} - \left(\frac{3}{2}\right)^3 = -\frac{3}{8}$$

$$e) \ 5 + \frac{4}{3 + \frac{2}{5}} = \frac{105}{17}$$

$$\frac{2}{3} \left( \frac{2 - \frac{1}{4}}{5 - 2} - \frac{\frac{2}{5} - 1}{\frac{1}{4} + 3} \right) = \frac{599}{1170}$$

HABYLAR H	Nombre:		
	Curso:	3° ESO	<b>Control Operaciones</b>
	Fecha:	29 de octubre de 2021	Opción C

a) 
$$1 - (-2)^3 - [-(-3)^3] - (-(-2)^3) = -26$$

b) 
$$-4\cdot(4-2)^2+(-3+1)^3+(2\cdot3)^2:(-1-5)-4:(2-3)^7=-26$$

c) 
$$(-2)^3 - (-3)^2 + [(-1)(-3)]^2 + [(-10):5]^3 + 4^2 = 0$$

d) 
$$\left[ 3 \cdot \left( 5^2 - \sqrt{16} \right) \cdot 2^2 \right] : \left( 2 \cdot \sqrt{49} \right) = 18$$

e) 
$$\sqrt{2^3 - (-1)^7} - \left[ -2 - 4 \cdot (-1)^5 \right] + \left\{ 1 + \left[ \left( 2^3 \right)^2 - 5 \cdot \left( 1 + 3^2 \right) \right] \right\} = 16$$

**2.-** Realiza paso a paso las operaciones con fracciones:

a) 
$$\frac{12}{15} - 3 + \frac{40}{12} - \frac{10}{8} = -\frac{7}{60}$$

b) 
$$4 - \frac{1}{3} \left[ 7 - \frac{1}{2} \left( -\frac{2}{5} + 3 - \frac{7}{2} \right) \right] = \frac{91}{60}$$

c) 
$$\left(\frac{1}{3} + \frac{1}{2}\right) \cdot \left[\frac{3}{4} - \left(\frac{5}{6} - \frac{3}{4}\right) : \left(\frac{2}{3} - \frac{1}{4}\right)\right] = \frac{11}{24}$$

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

$$e) \ 1 + \frac{7}{6 + \frac{3}{5 + \frac{1}{3}}} = \frac{31}{15}$$

**Bonus:** Resuelve paso a paso:  $\frac{\left(\frac{4}{5}:\frac{4}{9}\right)}{\left(\frac{-3}{2}:\frac{3}{7}\right)}:\frac{\left(\frac{-6}{7}:\frac{6}{2}\right)}{\left(\frac{8}{9}:\frac{8}{5}\right)}=1$ 

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a) 
$$-(-8)\cdot[-(-3)^3]\cdot\{-[-(-4)^0]\}:(-2)^3=-27$$

b) 
$$(5+3\cdot2:6-4)\cdot(4:2-3+6):(7-8:2-2)^2=10$$

c) 
$$6 - \left\{3 - \left[-13 + 3\cdot(-2)^2\right]^5\right\} - \left[4 - \left(-2\right)^3\right] + 6 = -4$$

d) 
$$2^3 \cdot \sqrt{4} - 3^2 : \sqrt{9} + 5^2 : \sqrt{25} = 18$$

e) 
$$\left\{1 + \left[\left(2^{3}\right)^{2} - 5\cdot\left(1 + 3^{2}\right)\right]\right\} - \left[-2 - 4\cdot\left(-1\right)^{5}\right] + \sqrt{2^{3} - \left(-1\right)^{7}} = 16$$

a) 
$$3 - \frac{11}{30} + \frac{13}{20} - \frac{9}{4} = \frac{31}{30}$$

b) 
$$2 + \frac{2}{7} \left[ 1 - \frac{21}{4} : \left( \frac{3}{5} - 2 - \frac{7}{2} \right) \right] = \frac{127}{49}$$

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

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

$$e) \ 1 - \frac{2}{3 + \frac{4}{5 + \frac{4}{3}}} = \frac{31}{69}$$

**Bonus.-** Resuelve paso a paso: 
$$\frac{\left(\frac{4}{5}:\frac{4}{9}\right)}{\left(\frac{-3}{2}:\frac{3}{7}\right)}:\frac{\left(\frac{-6}{7}:\frac{6}{2}\right)}{\left(\frac{8}{9}:\frac{8}{5}\right)}=1$$

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a) 
$$1 - \left[ 2^3 \cdot \left( 5 - 3^2 \right) \right] : 32 = 2$$

b) 
$$\sqrt{36} - 3(3-5) + 3^2 - 4^0 + 5^9 : 5^7 = 45$$

c) 
$$\left[ 3 \cdot \left( 5^2 - \sqrt{16} \right) \cdot 2^2 \right] : \left( 2 \cdot \sqrt{49} \right) = 18$$

d) 
$$(15-4)+3-(12-5\cdot2)+(5+16:4)-5+(10-2^3)=18$$

$$e) \left[ \sqrt{36} : 3 \cdot \left(3^2 - 5\right) + 4^2 \cdot \left(\sqrt{16} - 2\right) : 2 \right] : \left(16^2 : \sqrt{16} \cdot 8^3\right)^0 = {\color{red} 24}$$

a) 
$$\left(\frac{3}{2} - \frac{7}{4}\right)^3 : \left(\frac{9}{8} - \frac{5}{4}\right)^2 = -1$$

b) 
$$3 + \frac{1}{4} \left[ \frac{1}{2} + 3 \cdot \left( 4 - \frac{2}{3} \right) \right] = \frac{45}{8}$$

c) 
$$\left[\frac{2}{7} - \left(\frac{1}{4} - \frac{2}{5}\right) : \left(\frac{3}{10} - 1\right)\right] : \left(\frac{1}{2} - \frac{3}{14}\right) = \frac{1}{4}$$

d) 
$$2 \cdot \sqrt{\frac{13}{9} + \frac{4}{3}} - \left[ 3 - \left( 1 + \frac{4}{5} \right) \cdot 2 \right] \div 2 + \frac{1}{3} = \frac{119}{30}$$

$$e) \ 1 + \frac{1}{1 + \frac{1}{1 + \frac{2}{3}}} = \frac{13}{18}$$

**Bonus:** Resuelve paso a paso: 
$$\frac{\left(\frac{3}{4} + \frac{5}{2}\right) : \frac{1}{2} - 2 \cdot \left(\frac{1}{2} - \frac{1}{4}\right)}{\frac{3}{4} \cdot \left[\frac{7}{3} - \left(\frac{1}{2} + 2 \cdot \frac{1}{4}\right)\right]} = 6$$