

## OPERACIONES CON NÚMEROS ENTEROS

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1. Resuelve :

$$a) \sqrt[3]{1-9} - (-2)^2 \times 3 \div (-6) =$$

$$b) (-4+1)^3 \div (-3)^2 + \sqrt{(-7)(-6) - (-12) \div (-2)} =$$

$$c) (20 \div \sqrt{25} + \sqrt[3]{-27} \times (-2)^2)^2 =$$

$$d) ((-6)^2 \div \sqrt{81})^2 \div \sqrt{64} - \sqrt{4} =$$

$$e) \sqrt{4(-5)^2 - (-3)^2} - (-2)(-5) - (-2)^3 =$$

$$f) \sqrt{(-6)^2 - (-2)^2} \times 5 - (-1+4)^2 =$$

$$g) (-6)^2 \div (-3)^2 - \sqrt{49} \times (-2) =$$

$$h) (-7) - \sqrt{(-2)(-6) + 4} - (2(-4) - 3) =$$

$$i) ((-5)(-2) - (-4)(-3))^3 - (\sqrt{9} + (-2)(-5) - 1) =$$

$$j) \sqrt{(-3)(-4) + 8 - (-5)} - ((-5)^2 + (-7) \times 4)^2 =$$

$$k) \left( \sqrt{(-6)^2 - (-3)^2 - 5^2 - 2^0} \right)^5 \div ((-2)^3 \div 8) =$$

$$l) \left( \sqrt[3]{32 \div (-2)^3 + (-1+3)^4 - 2^2} \right)^5 =$$

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

$$n) 2^2(3-5) + 2(3^2 - 4 \times (-2) + 9 \div (-3)) - (-4)^3 \div (-2-6) =$$

$$o) -\sqrt[3]{-24-3} - (1+5)^2 - 5^2 + \sqrt{100} \div 2 =$$

$$p) (1+3)^2 - 5 + \sqrt{2^2} - (3+2-1) =$$

$$q) -(-4)^2 \div (-8) - (5-3 \times 2 + 1)^{12} - \sqrt[3]{(-4)(-2)} =$$

$$r) (-2)^2(-2)(-2)^3 + (-3)^6 \div (-3)^3 + ((-1)^3)^2 =$$

$$s) (-5)^7 \div (-5)^3 \div (-5) + (((-5)^2)^0)^4 - (-5) \times (-5)^2 =$$

$$t) ((-1)^7)^3 \div ((-1)^3)^5 + (((-1)^2)^5)^3 \times (((-1)^3)^5)^8 - ((-1)^3)^9 =$$

$$u) 2^5 \div (-2)^3 + (-1)^7 \times 1^9 \times (-1)^5 - (-3)^2 \times 3^2 =$$

$$v) \sqrt[4]{2^3 \times 2} \times \sqrt[5]{(-2)^6 \div (-2)} - \sqrt[3]{(-4)^2 \times (-4)} =$$

2. Calcula el valor de  $y$  :

$$a) -4y + 2(y-1) = 64$$

b)  $2y - (4 + (-2) \div (+1)) \times 3 \times y = 2(-2 - 1)y + 2$   
c)  $-3(y - 2) + 5(2y + 1) = -y(-2 + (-4) \div (+2)) - 1$   
d)  $(6y - 2) \div (-2) + 3y(-2 + 4) = -(3(y + 2) - 1)$   
e)  $(10y + 20) \div 5 - 2(2y + 3) = 3(4 - y) + 2y$   
f)  $\sqrt{(3y + 1) \div 5^0} + (4 - 2(-7 + 8)) \times 2^2 = \sqrt{100} + \sqrt[3]{27}$   
g)  $\sqrt{(y + 2) \div 3} + (9 - 3 \times 3) \times 4^2 = \sqrt[3]{8} - \sqrt{2 - (+1)}$   
h)  $(y + 2)^2 \div (-3)^2 + \sqrt[3]{3 + \sqrt{25}} = -\sqrt[3]{-1000} - (8 - 2(6 - 3)) - 2$   
i)  $(\sqrt{9y} - 1) \div 2 + (7 - 2(6 - 5)) = \sqrt[3]{125} + (7 + 4 \div (5 - 1)) \div 2^3$   
j)  $(y^2 - 5) \div 4 + (4 - 9)(-2) = -\sqrt[3]{-125} \div 5 + 2^2 \times 5$   
k)  $(2y + 1)^2 - 2^3 = 4y^2 + 1$   
l)  $(2y^2 - 4) \div 7 + 2^3 \div 2^2 = 6$   
m)  $(\sqrt{y} + 2) \div 2^2 + 2^3 = 10$   
n)  $3\sqrt[3]{y + 5} + \sqrt[3]{125} \div (2^2 + 1^5) = 10$

Resoluciones :

1 a)  $-2 - 12 \div (-6) = -2 + 2 = 0$   
1 b)  $-27 \div 9 + \sqrt{36} = -3 + 6 = 3$   
1 c)  $(4 - 12)^2 = 64$   
1 d)  $16 \div 8 - 2 = 0$   
1 e)  $\sqrt{100 - 9 - 10} - (-8) = 9 + 8 = 17$   
1 f)  $\sqrt{36 - 20} - 9 = 4 - 9 = -5$   
1 g)  $4 + 14 = 18$   
1 h)  $-7 - 4 - (-11) = -11 + 11 = 0$   
1 i)  $(10 - 12)^3 - (3 + 10 - 1) = -8 - 12 = -20$   
1 j)  $\sqrt{12 + 8 + 5} - (25 - 28)^2 = 5 - 9 = -4$   
1 k)  $(\sqrt{36 - 9 - 25 - 1})^5 \div (-1) = -1$   
1 l)  $(\sqrt[3]{4 + 16 - 4})^5 = 32$   
1 m)  $(2 + 5) \times (2 - 9) = 7 \times (-7) = -49$   
1 n)  $4(-2) + 2(9 + 8 - 3) + 64 \div (-8) = -8 + 28 - 8 = 12$   
1 o)  $-(-3) - 36 - 25 + 50 = 3 - 61 + 50 = -8$   
1 p)  $16 - 5 + 2 - 4 = 9$   
1 q)  $2 - 0 - 2 = 0$   
1 r)  $(-2)^6 + (-3)^3 + (-1)^6 = 64 - 27 + 1 = 38$   
1 s)  $(-5)^3 + (-5)^0 - (-5)^3 = -125 + 1 + 125 = 1$

$$1 \text{ t) } (-1)^{21} \div (-1)^{15} + (-1)^{30} \times (-1)^{120} - (-1)^{27} = (-1)^6 + (-1)^{150} - (-1) = 1 + 1 + 1 = 3$$

$$1 \text{ u) } (-2)^5 \div (-2)^3 - (-1)^7 \times (-1)^9 \times (-1)^5 - 3^2 \times 3^2 = (-2)^2 - (-1)^{21} - 3^4 = -84$$

$$1 \text{ v) } 2 \times (-2) - (-4) = -4 + 4 = 0$$

$$2 \text{ a) } -4y + 2y - 2 = 64 \Rightarrow -2y = 66 \Rightarrow y = -33$$

$$2 \text{ b) } 2y - (4 - 2) \times 3y = 2 \times (-3)y + 2 \Rightarrow 2y - 6y = -6y + 2 \Rightarrow y = 1$$

$$2 \text{ c) } -3y + 6 + 10y + 5 = 2y + 2y - 1 \Rightarrow 7y - 4y = -12 \Rightarrow y = -4$$

$$2 \text{ d) } -3y + 1 - 6y + 12y = -3y - 6 + 1 \Rightarrow 3y + 3y = -6 \Rightarrow y = -1$$

$$2 \text{ e) } 2y + 4 - 4y - 6 = 12 - 3y + 2y \Rightarrow -y = 14 \Rightarrow y = -14$$

$$2 \text{ f) } \sqrt{(3y+1)} + 8 = 13 \Rightarrow 3y+1 = 5^2 \Rightarrow 3y = 24 \Rightarrow y = 8$$

$$2 \text{ g) } \sqrt{(y+2) \div 3} + 0 = 2 - 1 \Rightarrow (y+2) \div 3 = 1^2 \Rightarrow y+2 = 3 \Rightarrow y = 1$$

$$2 \text{ h) } (y+2)^2 \div 9 + 2 = 10 - 2 - 2 \Rightarrow (y+2)^2 = 4 \times 9 \Rightarrow y+2 = 6 \Rightarrow y = 4$$

$$2 \text{ i) } (\sqrt{9y} - 1) \div 2 + 5 = 5 + 1 \Rightarrow \sqrt{9y} = 3 \Rightarrow 9y = 9 \Rightarrow y = 1$$

$$2 \text{ j) } (y^2 - 5) \div 4 + 10 = 1 + 20 \Rightarrow y^2 - 5 = 44 \Rightarrow y = 7$$

$$2 \text{ k) } 4y^2 + 4y + 1 - 8 = 4y^2 + 1 \Rightarrow 4y = 8 \Rightarrow y = 2$$

$$2 \text{ l) } (2y^2 - 4) \div 7 = 6 - 2 \Rightarrow y^2 = (4 \times 7 + 4) \div 2 \Rightarrow y = 4$$

$$2 \text{ m) } (\sqrt{y} + 2) \div 4 = 10 - 8 \Rightarrow \sqrt{y} = 8 - 2 \Rightarrow y = 36$$

$$2 \text{ n) } 3 \sqrt[3]{y+5} + 5 \div 5 = 10 \Rightarrow 3 \sqrt[3]{y+5} = 10 - 1 \Rightarrow \sqrt[3]{y+5} = 9 \div 3 \Rightarrow y+5 = 27 \Rightarrow y = 22$$