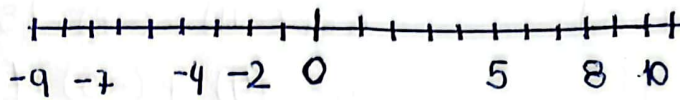


①



②

$$|5| = 5$$

$$|-2| = 2$$

$$|0| = 0$$

$$|8| = 8$$

$$|-4| = 4$$

$$|-7| = 7$$

$$|10| = 10$$

$$|-9| = 9$$

$$\text{op}(5) = -5$$

$$\text{op}(-2) = 2$$

$$\text{op}(0) = 0$$

$$\text{op}(8) = -8$$

$$\text{op}(-4) = 4$$

$$\text{op}(-7) = 7$$

$$\text{op}(10) = -10$$

$$\text{op}(-9) = 9$$

③ a) $5 - (+4) - [-(-3) + (-4 + 7) - 6] + 2$

$$5 - 4 - [3 + 3 - 6] + 2$$

$$5 - 4 - 0 + 2$$

$$7 - 4$$

$$3$$

b) $- [+2 - (-1) + (-4) + 7] + (-2 + 8) - 10$

$$- [2 + 1 - 4 + 7] + 6 - 10$$

$$- (10 - 4) + 6 - 10$$

$$- 6 + 6 - 10$$

$$6 - 16$$

$$-10$$

c) Repetido

d) $- [(-5) - (-4) + (10 - 3) + (-5 - 8) - 12] - (4 + 6)$

$$- [-5 + 4 + 7 + (-13) - 12] - 10$$

$$- [-5 + 4 + 7 - 13 - 12] - 10$$

$$- [-11 - 30] - 10$$

$$- (-19) - 10$$

$$+19 - 10$$

$$9$$

④ a) $24 - (-3) \cdot [13 - 4 - (10 - 5)]$

$$24 - (-3) \cdot [13 - 4 - 5]$$

$$24 - (-3) \cdot [13 - 9]$$

$$24 - (-3) \cdot 4$$

$$24 + 12$$

$$36$$

b) $6 \cdot (7 - 11) + (-5) \cdot [5 \cdot (8 - 2) - 4 \cdot (9 - 4)]$

$$6 \cdot (7 - 11) + (-5) \cdot [5 \cdot 6 - 4 \cdot 5]$$

$$6 \cdot (-4) + (-5) \cdot [30 - 20]$$

$$-24 + (-5) \cdot 10$$

$$-24 - 50$$

$$-74$$

c) $(-4) \cdot [(-6) - (-8)] - (+3) \cdot [(-11) - (-7)]$

$$(-4) \cdot [-6 + 8] - (+3) \cdot [-11 + 7]$$

$$(-4) \cdot (+2) - (+3) \cdot (-4)$$

$$-8 + 12$$

$$4$$

d) $20 - 16 \div [(-2 + 7) - (-3 - 8)] \cdot [4 \div 2 + 2 \cdot (-3)]$

$$20 - 16 \div [5 - (-11)] \cdot [2 - 6]$$

$$20 - 16 \div [5 + 11] \cdot (-4)$$

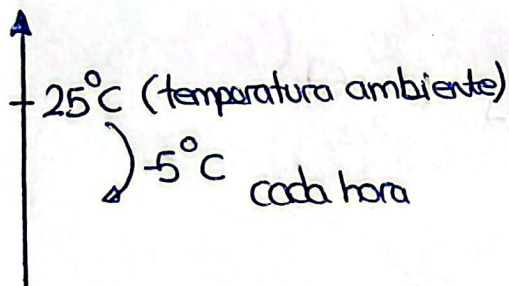
$$20 - 16 \div 16 \cdot (-4)$$

$$20 - 1 \cdot (-4)$$

$$20 + 4$$

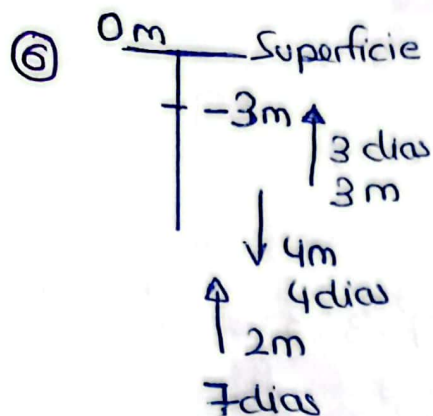
$$24$$

⑤



$$25 - 5 \cdot 6 = 25 - 30 = -5^\circ\text{C}$$

En 6 horas la temperatura es de -5°C



$$-3 - 3 \cdot 3 + 4 \cdot 4 - 2 \cdot 7 = -3 - 9 + 16 - 14$$

$$= -26 + 16 = -10 \text{ m}$$

El camarón estaba a 10 m de profundidad

⑦ a) $[(-3)^4]^3 : [(-3)^3]^3 = (-3)^{12} : (-3)^9 = (-3)^3$

b) $(2^4)^3 : 2^9 = 2^{12} : 2^9 = 2^3$

c) $(-6)^8 : (-6)^5 = (-6)^3$

d) $(-12)^3 : 6^3 = (-2)^3$

e) $(6^3 \cdot 4^3) : (-8)^3 = 24^3 : (-8)^3 = (-3)^3$

f) $[8^4 \cdot (-5)^4] : (-20)^4 = (-40)^4 : (-20)^4 = 2^4$

g) $[(5^2)^2 \cdot 5^3 \cdot 5^5] : [(5^3)^4 : 5^3] = [5^4 \cdot 5^3 \cdot 5^5] : [5^{12} : 5^3] = 5^{12} : 5^9 = 5^3$

h) $[(-3)^4 \cdot (-3)^2 \cdot (-3)^5] : (-3)^{10} = (-3)^{11} : (-3)^{10} = (-3)^1$

i) $(a^4)^5 : (a^7 \cdot a^3 \cdot a^4) = a^{20} : a^{14} = a^6$

j) $(9^5 : 3^4)^3 : 81 = ((3^2)^5 : 3^4)^3 : 3^4 = (3^{10} : 3^4)^3 : 3^4 = (3^6)^3 : 3^4 = 3^{18} : 3^4 = 3^{14}$

9 | 3
3 | 3
1

9 = 3

81 | 3
27 | 3
9 | 3
3 | 3
1

81 = 3^4

k) $5^2 \cdot (-5)^3 = -5^2 \cdot 5^3 = -5^5$

l) $[7^4 \cdot (-7)^4] : (-7)^6 = +[7^4 \cdot 7^4] : 7^6 = 7^8 : 7^6 = 7^2$

$$m) (5^2)^5 : [(-5)^3]^2 = 5^{10} : (-5)^6 = + 5^{10} : 5^6 = 5^4$$

$$n) 6^4 \cdot 36 \cdot 6^3 = 6^4 \cdot 6^2 \cdot 6^3 = 6^9$$

$$\begin{array}{r} 36 \overline{) 6} \\ 6 \overline{) 6} \\ 1 \end{array} \quad 36 = 6^2$$

$$o) 3^4 \cdot (-9)^3 \cdot 3 : 27 = -3^4 \cdot 9^3 \cdot 3 : 27 = -3^4 \cdot (3^2)^3 \cdot 3 : 3 = -3^4 \cdot 3^6 \cdot 3 : 3 = -3^{11} : 3 = -3^8$$

$$\begin{array}{r} 9 \overline{) 3} \\ 3 \overline{) 3} \\ 1 \end{array}$$

$$9 = 3^2$$

$$\begin{array}{r} 27 \overline{) 3} \\ 9 \overline{) 3} \\ 3 \overline{) 3} \\ 1 \end{array}$$

$$27 = 3^3$$

⑧ a) $\sqrt{144} = \pm 12$

b) $\sqrt{-121} \nexists$

c) $\sqrt{19600} = \pm 140$

d) $\sqrt{-10000000} \nexists$

e) $\sqrt{49000000} = \pm 7000$

⑨ a) $\sqrt{9} + (-3) \cdot [12 + (-7)]$ b) $12 - (2^2 - 10^2 : 5) + (-6)^2 : 4$

$$3 + (-3) \cdot (12 - 7)$$

$$12 - (4 - 100 : 5) + 36 : 4$$

$$3 + (-3) \cdot 5$$

$$12 - (4 - 20) + 9$$

$$3 - 15$$

$$12 - (-16) + 9$$

$$-12$$

$$12 + 16 + 9$$

$$37$$

c) $[9 - \sqrt{25} \cdot (-2)^3] : [(-3-1)^2 - 9]$

$$[9 - 5 \cdot (-8)] : [(-4)^2 - 9]$$

$$[9 + 40] : [16 - 9]$$

$$49 : 7$$

$$7$$

$$\begin{aligned}d) & - [-8 \cdot 2 + (-3)^2 - (\sqrt{49} + 4) - (-2)^3] + (-45 \div \sqrt{25} - 1) \\& - [-8 \cdot 2 + (+9) - (7 + 4) - (-8)] + (-45 \div 5 - 1) \\& - [-8 \cdot 2 + 9 - 11 + 8] + (-9 - 1) \\& - [-16 + 9 - 11 + 8] + (-10) \\& - [-27 + 17] + (-10) \\& - (-10) \div 10 \\& +10 \div 10 \\& 0\end{aligned}$$