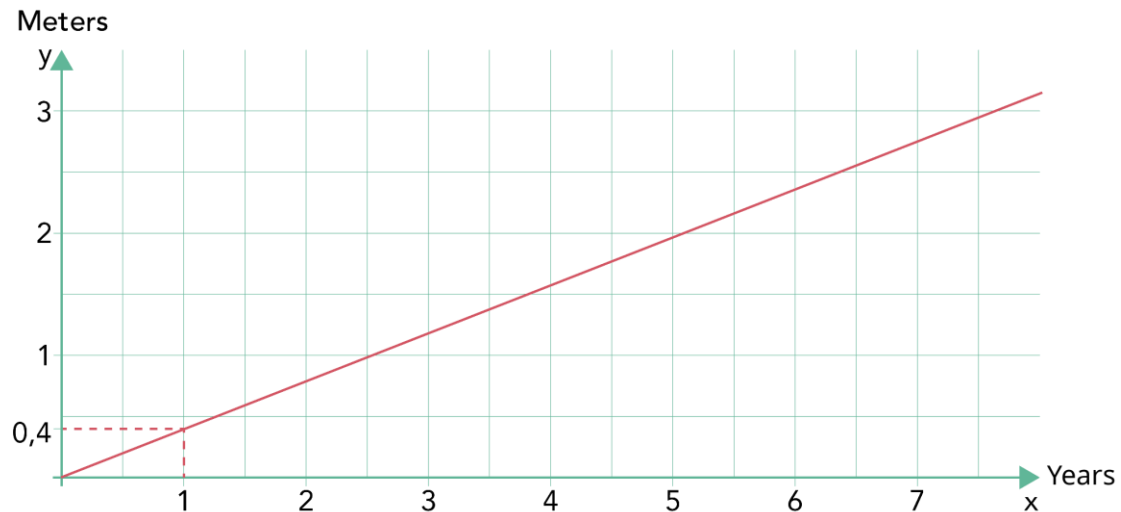


## Practical Guide

### The advance of the sea

#### Activity 1.

Below is a graph of a prediction of the advance of the sea in a coastal area of the Valparaíso region.



Answer :

1. What type of proportionality does it correspond to? Justify.
2. How much would the sea advance in this area after 9 years?
3. What is the algebraic expression or formula that models this situation?
4. Complete the following table using the formula found :

X Time (years)	1	5	12	16	20
Y Advance of sea (meters)					
Quotient Y : X					

5. In the year 2023, a house is located 30 meters from the sea on the coast of Valparaíso. In how many more years will the sea have reached the house? What year will it be?

## Solver

**Act . 1**    **1.**

It is a direct proportionality, since it is a line that passes through the point (0,0).

**2.**

Since each year the sea advances 0.4 meters, then, after 9 years the sea would advance 3.6 meters.

**3.**

$$y = 0,4 \cdot x$$

**4.**

X Time (years)	1	5	12	16	20
Y Advance of sea (meters)	0,4	2	4,8	6,4	8
Quotient Y : X	0,4	0,4	0,4	0,4	0,4

**5.**

$$30 = 0,4 \cdot x$$

$$x = \frac{30}{0,4}$$

$$x = 75$$

In 75 more years, that is, the year 2098, the sea will have reached the house.