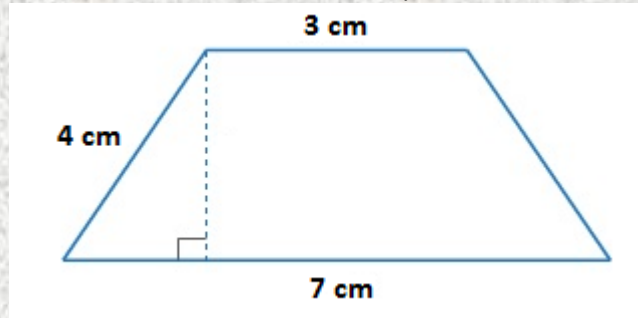
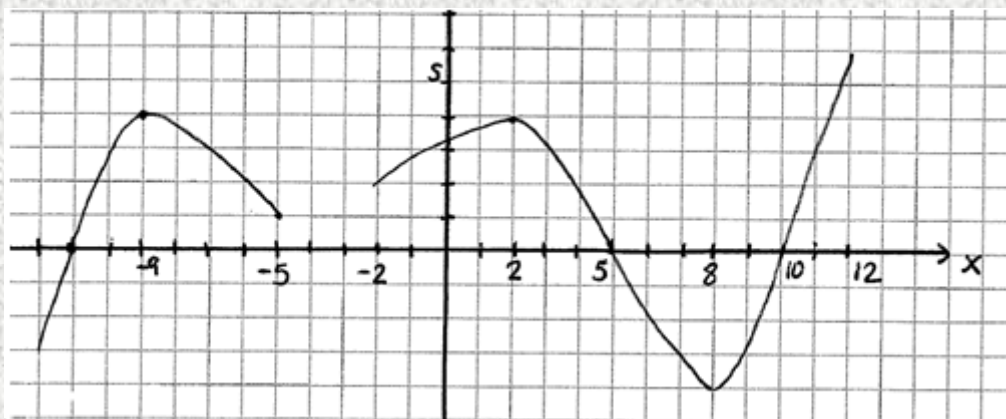


**FUNCTIONS, THALES AND PYTHAGORAS TEST - 2º ESO**

**Exercise 1: (1 point)** Find the area of this isosceles trapezium



**Exercise 2: (2 points)** Given the following graph of a certain function:



- Indicate its domain and its image. Is it a continuous function? Why?
- Determine the points where the function crosses the axes
- Study its monotony
- Study the extrema

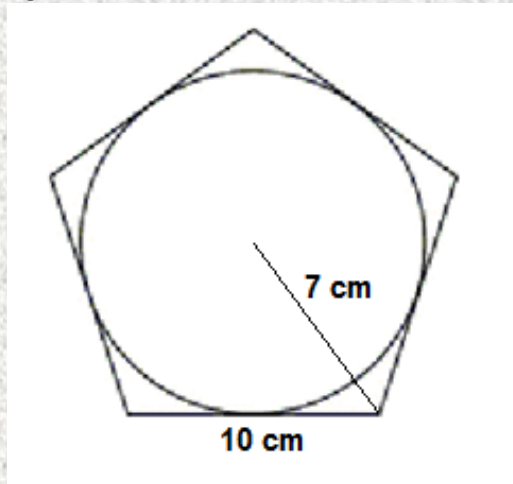
**Exercise 3: (1 point)** Work out the graph of a function that fulfills all the following characteristics at the same time:

- Its domain is  $(-12, 10)$
- It crosses the axes at the points  $(-9, 0)$ ,  $(6, 0)$ , and  $(0, 5)$
- It has minima at  $x = -10$ ,  $x = -4$ ,  $x = 10$  and maxima at  $x = -7$ ,  $x = 3$  and  $x = 11$

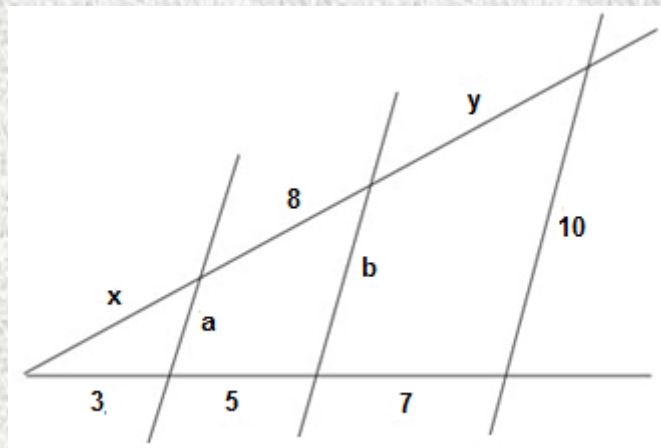
**Exercise 4: (2 points)** Plot the graphs of the following functions:

- $y = 2x - 3$
- $y = 5$
- $y = x^2 - 4x$  (make a table where  $x$  moves from  $-1$  to  $5$ )

**Exercise 5: (1.5 points)** Find the area between the circle and the pentagon, if its side has a length of 10 cm and the length of the radius is 7 cm



**Exercise 6: (1.75 points)** Find the values of the indeterminates in the following figure and the constant of proportion



**Exercise 7: (0.75 points)** Find the height of the tree

