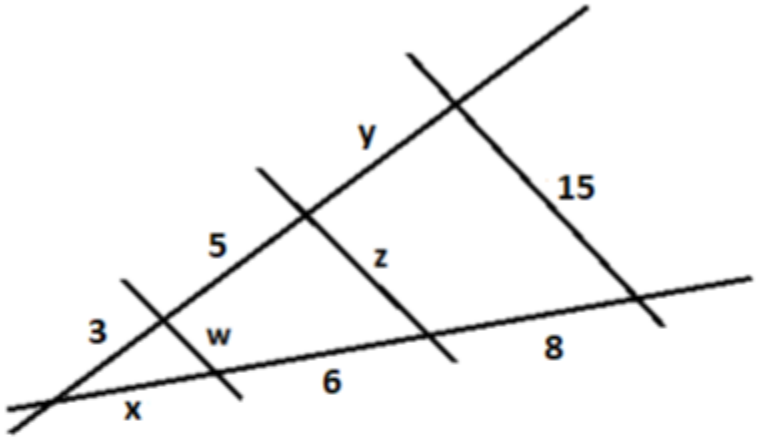
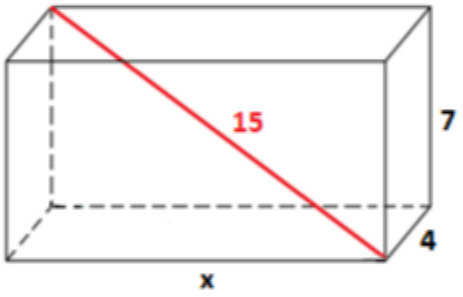
THIRD TERM GLOBAL TEST - 3º ESO

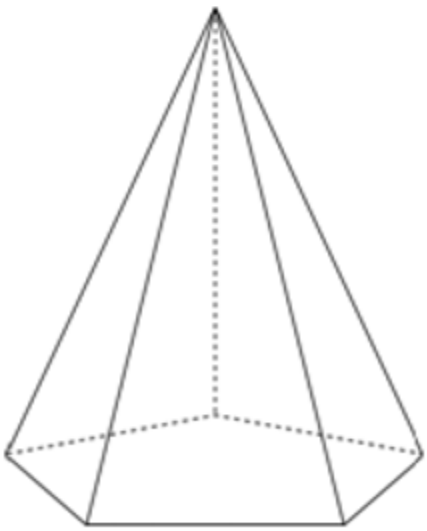
Exercise 1: **(1.25 points)** Find the value of the indeterminates:



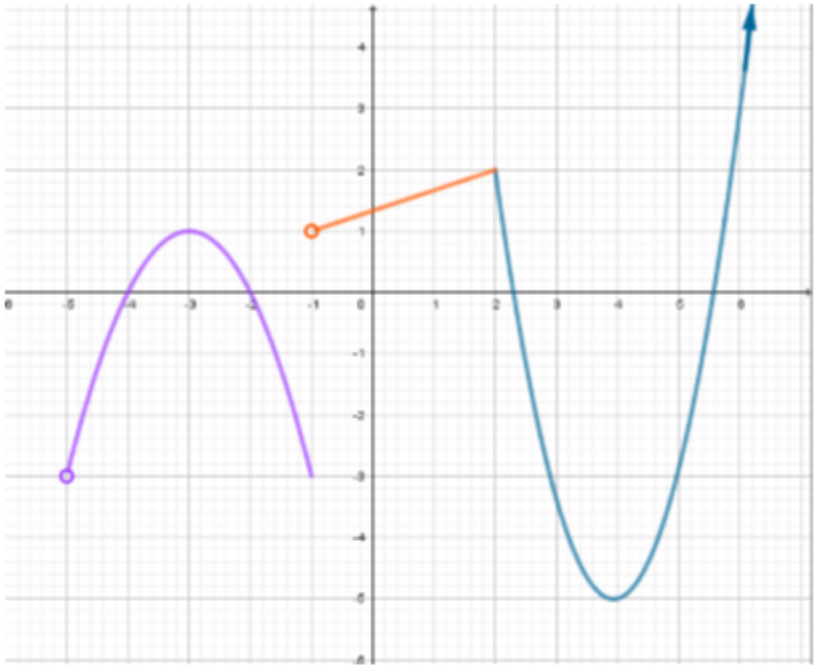
Exercise 2: **(1 point)** Find the missing side of this cuboid:



Exercise 3: **(1.25 points)** Work out the area of a regular pentagonal pyramid if the altitude measures 15 cm, the radius of the base has a length of 12 cm and the side of the base has a length of 9 cm.



Exercise 4: (1.75 points) Given the following graph of a certain function:



a) Indicate its domain and its image
b) Determine the points where the function crosses the axes
c) Study its monotony
d) Study the relative and absolute extrema

Exercise 5: (1.5 points)

a) Work out the **general** equation of the straight line that passes through the points $P(-2,5)$ and $Q(3,-1)$
b) Work out the equation of the straight line that is parallel to $7x+2y-1=0$ and passes through the point $A(-3,5)$. Indicate the value of the slope and the y-intercept.

Exercise 6: (1 point) Plot the graph of the function $f(x)=x^2-3x-4$, indicating its direction, studying the points where it crosses the axes and finding the coordinates of the vertex. Create also a table with at least a couple of values.

Exercise 7: (1.5 points) Plot the graph of the piecewise function given below

$$f(x)=\begin{cases} x^2+6x+5 & -6<x\leq -2 \\ \dfrac{x}{2}-1 & x>-2 \end{cases}$$

Exercise 8: (0.75 points) Find the sides of a right-angled triangle if they have lengths of x, $x-1$ and $x+1$ cm