EXAMEN GLOBAL 3ª EVALUACIÓN - 3º ESO

Exercise 1: **(2.25 points)** Solve and classify the following simultaneous equations using the indicated method:

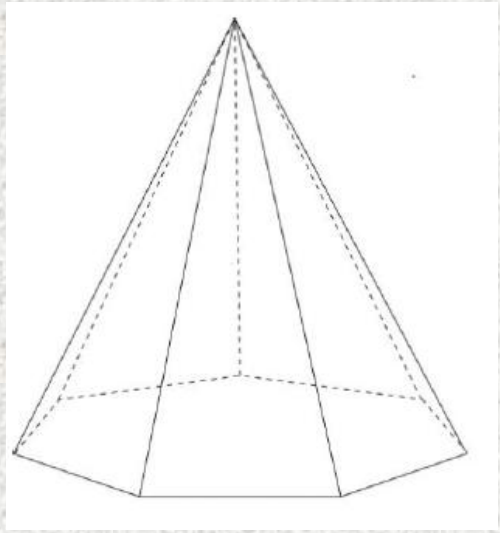
a) $\left.\begin{matrix} 2x+y=7 \\ 6x+3y=5 \end{matrix}\right\}$ Substitution

b) $\left.\begin{matrix} x+2y=3 \\ 2x+5y=10 \end{matrix}\right\}$ Elimination

c) $\left.\begin{matrix} 4x+y=1 \\ x-2y=7 \end{matrix}\right\}$ Graphically

d) $\left.\begin{matrix} 2x+3y=8 \\ 3x+4y=10 \end{matrix}\right\}$

Exercise 2: **(1.75 points)** Calcula el área de una pirámide heptagonal de radio 12cm, lado 15cm y arista de la cara 17cm



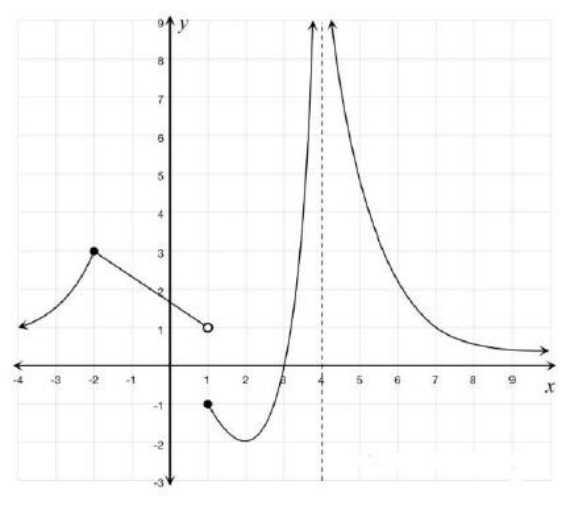
Exercise 3: **(0.5 points)** Work out the equation of the straight line that passes through the points A(-1, -5) and B(4, 1)

Exercise 4: **(2.25 points)** Plot the graph of the piecewise function given below

$$f(x)=\begin{cases} x+3 & x<-2 \\ 5-2x & -2\le x<1 \\ x^2-6x+8 & 1<x<6 \end{cases}$$

Exercise 5: **(1.5 points)** Draw the graph of the function $f(x)=9-x^2$, indicating its direction, studying the points where it crosses the axes and finding the coordinates of the vertex. Construct also a table with at least a couple of values.

Exercise 6: (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 local and global extrema