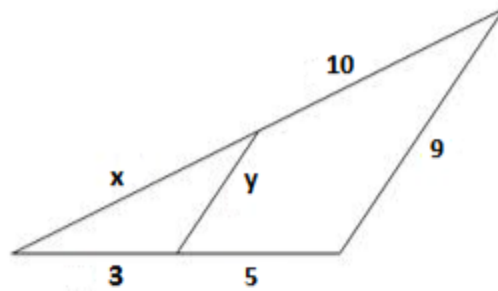## EXAMEN GLOBAL 3ª EVALUACIÓN - 2º ESO

Exercise 1: (1 point) Work out the values of **x** and **y** in the following figure:


Exercise 2: (2.75 points) Solve and classify the following simultaneous equations using the indicated method:

a) $\left.\begin{array}{l} x+3y=4 \\ 2x-y=15 \end{array}\right\}$ Elimination

b) $\left.\begin{array}{l} x+y=4 \\ x+2y=1 \end{array}\right\}$ Graphically

c) $\left.\begin{array}{l} 4x+y=7 \\ 3x+2y=-1 \end{array}\right\}$ Substitution

d) $\left.\begin{array}{l} 6x-2y=10 \\ 15x-5y=7 \end{array}\right\}$

Exercise 3: (0.75 points) Plot the graph of the function $y=x^2-5$ (make a table where x moves from -3 to 3)
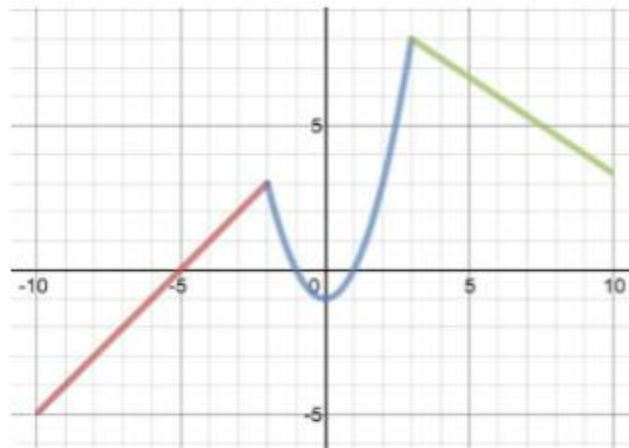
Exercise 4: (1 point) In this kite the lengths of the diagonals are 20 cm and 16 cm. If the shortest side has a length of 10 cm, find its area and its perimeter.
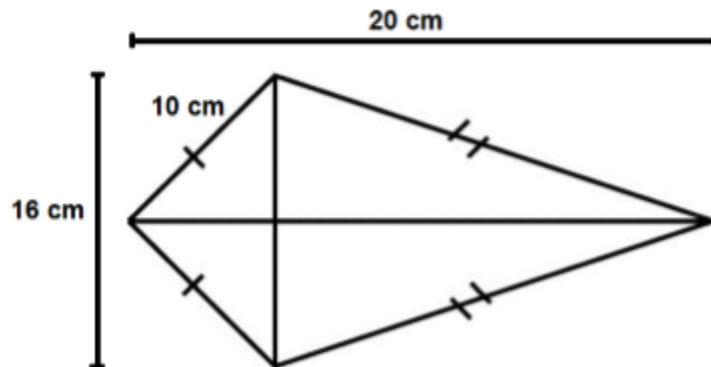
Exercise 5: (2 points) Solve the following quadratic equations:

  a) $2x^2 - 98 = 0$

  b) $6x^2 + 3x = 0$

  c) $x^2 - 4x - 5 = 0$

  d) $x^2 - 24x + 144 = 0$

  e) $(x+3)^2 - 4x = 24$

Exercise 6: (2 points) Given the following graph of a certain function:

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

Exercise 7: (0.5 points) Enunciate Pythagoras' theorem