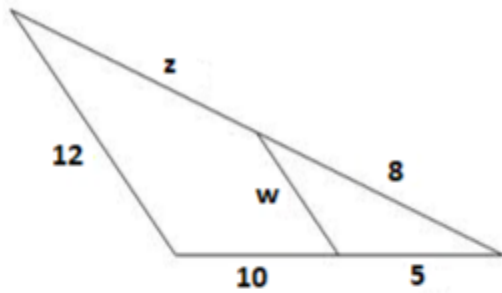


THIRD TERM GLOBAL TEST - 2° ESO

Exercise 1: (1 point) Work out the values of z and w in the following figure:

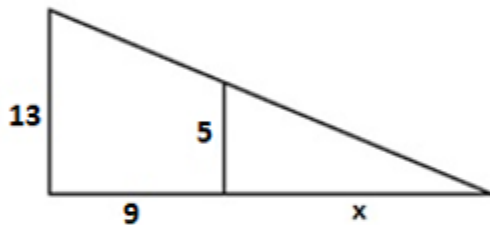


$z = 16$

$w = 4$

Exercise 2: (1 point) Find the area of a regular nonagon if the radius has a length of 20 cm and the side measures 15 cm $A = 1251.5 \text{ cm}^2$

Exercise 3: (0.75 points) Find the value of x :



$x = 5.63$

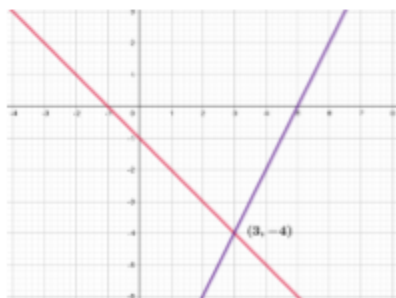
Exercise 4: (1 point) Find the sides of a right-angled triangle if they have lengths of x , $x-1$ and $x+1$ cm They measure 3 cm, 4 cm and 5 cm

Exercise 5: (3.25 points) Solve and classify the following simultaneous equations using the indicated method:

a) $\left. \begin{matrix} 2x - y = 16 \\ 3x + 5y = 11 \end{matrix} \right\}$ Substitution $x = 7$ $y = -2$ Consistent independent

b) $\left. \begin{matrix} x - 3y = 13 \\ 5x + y = -15 \end{matrix} \right\}$ Elimination $x = -2$ $y = -5$ Consistent independent

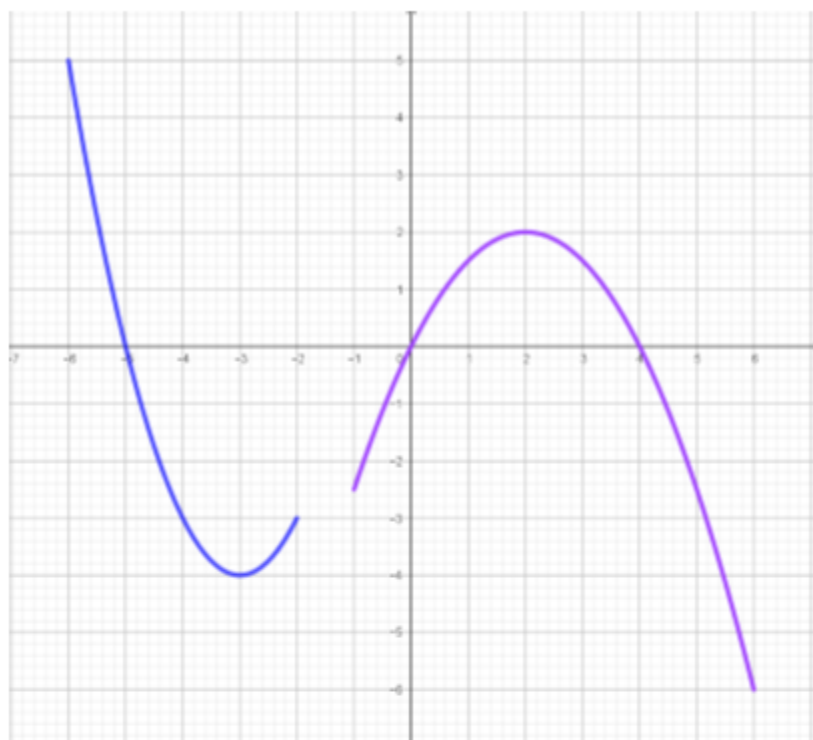
c) $\left. \begin{matrix} x + y = -1 \\ 2x - y = 10 \end{matrix} \right\}$ Graphically $(3, -4)$ Consistent independent



d) $\left. \begin{matrix} 2x + 4y = 7 \\ 3x + 6y = 5 \end{matrix} \right\}$ Whatever No solution, inconsistent



Exercise 6: (1.5 points) Given the following graph of a certain function:



- a) Indicate its domain and its image $\text{Dom } f = (-6, -2) \cup (-1, 6)$ $\text{Im } f = (-6, 5)$
- b) Determine the points where the function crosses the axes
 $\underline{OX} \mid x = -5 \quad x = 0 \quad x = 4$ $\underline{OY} \mid y = 0$
- c) Study its monotony
Increases: $(-3, -2) \cup (-1, 2)$
Decreases: $(-6, -3) \cup (2, 6)$
- d) Study the relative and absolute extrema
Relative maxima: $x = -6 \quad x = -2 \quad x = 2$ **Absolute maximum:** $x = -6$
Relative minima: $x = -3 \quad x = -1 \quad x = 6$ **Absolute minimum:** $x = 6$

Exercise 7: (1.5 points) Plot the graphs of the following functions:

- a) $y = \frac{x-1}{2}$
 b) $y = 7-3x$
 c) $y = x^2 - 2x + 1$

