

## **GLOBAL TEST - 2° ESO**



Exercise 1: (2.5 ptos) Solve the following systems of equations using the indicated method:

a) 
$$\begin{cases} 2x - y = 10 \\ 5x + 2y = 16 \end{cases}$$
 Substitution

b) 
$$3x-2y=9$$
  
 $5x+3y=-4$ } Elimination

c) 
$$\begin{cases} 2x - y = 7 \\ x + y = 8 \end{cases}$$
 Graphically

Exercise 2: (1.5 ptos) Find the sides of a right-angled triangle knowing that the hypotenuse measures 2x-3 and the other two sides have lengths of x and x-1

Exercise 3: (2 ptos) Solve the following second degree equations:

a) 
$$5x^2 - 20 = 0$$

b) 
$$16x^2 - 49 = 0$$

c) 
$$4x^2 + 2x = 0$$

d) 
$$x^2 + 2x - 3 = 0$$

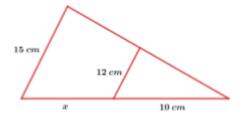
Exercise 4: (1.25 ptos) Work out:

a) Evaluate the polynomial 
$$P(x) = 3x^2 - 5x - 15$$
 when  $x = -2$  (0.5)

b) If 
$$P(x) = 5x^2 - 2x - 1$$
 and  $Q(x) = 3x - 7$ , find  $P \cdot Q = (0.75)$ 

<u>Exercise 5:</u> (1 pto) My house seems to have turned into a jungle and there's no way that I can water all the plants at the same time. This morning I watered three fifths of them, and this evening, four sevenths of the remaining ones. If I still have eighteen plants to be watered, how many of them do I have in total?

Exercise 6: (0.75 ptos) Find the value of x:



Exercise 7: (1 pto) Find the area of this kite knowing that the sides have lengths of 5 cm and 7 cm and the smallest diagonal measures 6 cm

