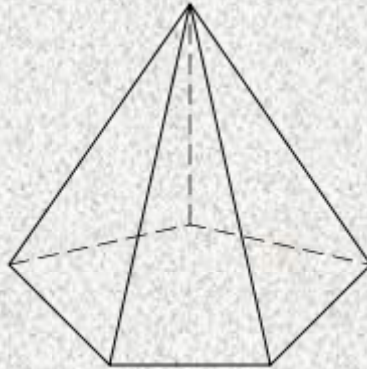
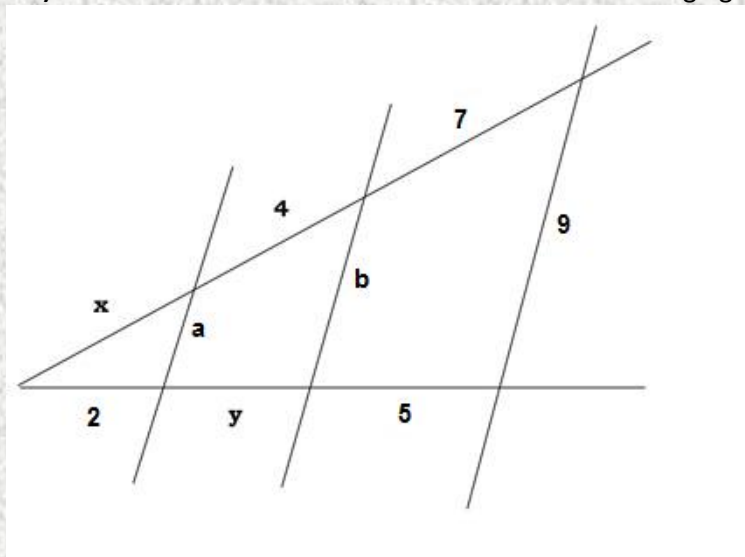


GEOMETRY AND POLYNOMIALS - 3^o ESO

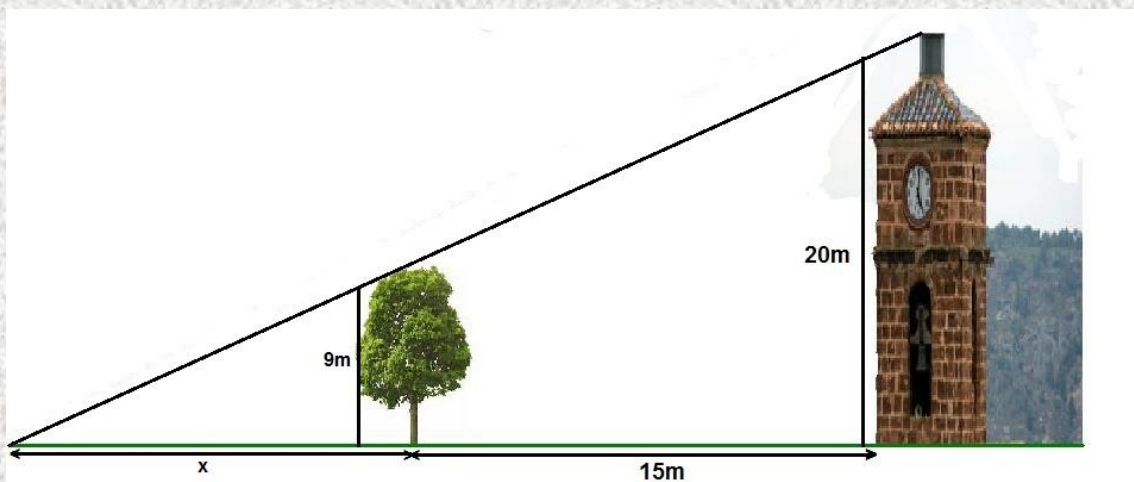
Exercise 1: (2 points) Work out the value of the area of a pentagonal pyramid with height 15cm if the length of the side of the base is 12cm and its radius is 10cm.



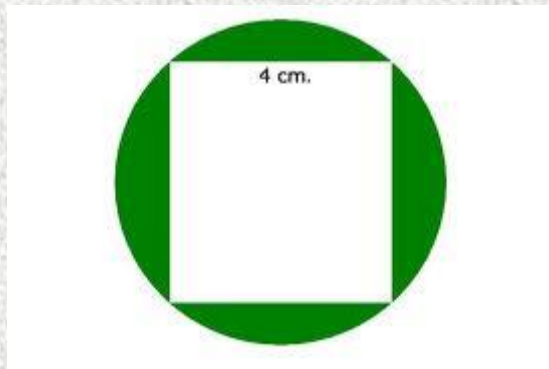
Exercise 2: (1 point) Find the values of the indeterminates in the following figure:



Exercise 3: (0.75 points) I want to find out the length of the shadow of a tower. Using a tree in order to help me with my task I got these measures. What are the values of the shadows?



Exercise 4: (1 point) Work out the value of the shadowed area:



Exercise 5: (1.25 points) Given the polynomials

$$P(x) = x^4 - 4x^3 + 5x - 7$$

$$Q(x) = x^2 - 2x$$

$$R(x) = x + 3$$

a) Divide $P(x)$ by $Q(x)$

b) Divide $P(x)$ by $R(x)$

In both cases, indicate the quotient and the remainder

Exercise 6: (0.5 points) Find the value of the constant k so that when dividing the polynomial $P(x) = 5x^4 - kx^3 + 3x^2 - x + 2$ by $(x + 2)$ the remainder is five

Exercise 7: (0.5 points) I have factored the polynomial $P(x) = 7x^5 - 5x^4 + 3x^2 + 7x - 12$ and I got the expression

$$P(x) = 7x^5 - 5x^4 + 3x^2 + 7x - 12 = (x - 2)(x + 2)(x - 4)(x + 5)$$

Did I make any mistake?

Exercise 8: (3 points) Find the roots and factor the following polynomials:

a) $P(x) = x^4 - x^3 - 11x^2 + 9x + 18$

b) $P(x) = x^6 + 6x^5 + 8x^4 - 6x^3 - 9x^2$

c) $P(x) = x^4 - 4x^2 - 45$