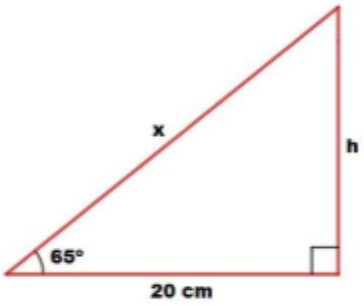
FUNCTIONS AND TRIGONOMETRY TEST

4º ESO

Exercise 1: (1 pto) If $\cos\alpha = \frac{5}{13}$ find the values of $\sin\alpha$ and $\tan\alpha$ **without using a calculator**, and the value of the angle α

Exercise 2: (1.25 ptos) If $\tan\alpha = 1.8$ find the values of the other five trigonometric functions

Exercise 3: (0.75 ptos) Find the values of x and h



Exercise 4: (1.5 ptos)

a) Find the **general** equation of the straight line that goes through the points $A(-2,3)$ and $B(7,5)$

b) Find the equation of a straight line that's paralel to $5x-7y-9=0$ and goes through the point $P(4,-5)$

Exercise 5: (2 ptos) Work out:

a) $\log_5 \frac{\sqrt{125}\cdot\sqrt[3]{625}}{\sqrt[7]{5}} =$

b) $\frac{\log 512 - \log 64}{\log 2 + \log 16} =$

Exercise 6: (1 pto) Sketch the graph of the parabola $f(x) = -x^2 + 4x + 5$, studying all of its characteristics

Exercise 7: (2.5 ptos) Plot the graph of the piecewise function:

$$f(x) = \begin{cases} 2^x & x < 1 \\ \frac{3}{x-1} & 1 < x < 4 \\ 1 & 4 \le x < 10 \end{cases}$$