SECOND TERM GLOBAL TEST

4° ESO

Exercise 1: (1 pto) Find the **general** equation of the straight line that goes through the points $P(3,-5)$ and $Q(8,4)$

Exercise 2: (2 ptos) Find the domain of the following functions:

a) $f(x)=\dfrac{x^2-1}{\sqrt[4]{x^2-5x+6}}$ b) $f(x)=\dfrac{2x-5}{7x+3}$ c) $f(x)=\dfrac{\sqrt{x-2}}{x^2-25}$

Exercise 3: (2 ptos) Work out:

a) $\lim\limits_{x\to 2}\dfrac{x^2-7x+10}{x^2-4}=$

b) $\lim\limits_{x\to\infty}\left(x-\dfrac{3x^2-4x}{3x-5}\right)=$

c) Find the horizontal and vertical asymptotes of the function $f(x)=\dfrac{9x-8}{x^2-16}$

Exercise 4: (1 pto) Work out $\dfrac{\log_7 78125-\log_7 3125}{\log_7 5+\log_7 25}=$

Exercise 5: (2 ptos)

a) Sketch the graph of the piecewise function $f(x)=\begin{cases}x^2-2x-3 & -3<x<3\\ \sqrt{x-3} & x>3\end{cases}$

b) With a dotted line or a different color plot the graph of $|f(x)|$

Exercise 6: (1.25 ptos) If $\sin\alpha=0.37$ find the value of the other five trigonometric functions and α

Exercise 7: (0.75 ptos) Find the values of x and h