

Due 5 Sept, at start of recitation. Write up your solution carefully.

- . 5      1. Evaluate  $\lim_{s \rightarrow 0} \frac{s \sin 2s \cot 4s}{\tan 3s}$ , being sure to say which limit laws or other results you are using.
- . 5      2. Find the equations of all horizontal and vertical asymptotes of  $y = \frac{2x^2 + 3}{x^2 - 4}$ . You should justify your answer using algebra and limits.  
Draw a clear sketch of the graph of this function and mark the asymptotes.