MATH 4103   **Additional problem assigned on 2/9/16**

Additional problem. Directly from the definition of a limit (generalized to include ∞), show that

(a) $\displaystyle\lim_{z \to 2i} \frac{1}{(z - 2i)^3} = \infty$;

(b) $\displaystyle\lim_{z \to \infty} \frac{5}{z^2} = 0$.