習題集 7

(對應 張旭微積分 極限篇重點七：去絕對值求極限)

1. Evaluate $\lim_{x\to 1}\dfrac{x^2-1}{|x-1|}$.

2. Evaluate $\lim_{x\to 1}\dfrac{x^2+2x-3}{|x-1|}$

3. Evaluate $\lim_{x\to 0}\dfrac{x^4}{|x|}$.

4. Find $\lim_{x\to -1}\dfrac{||x|-3|-2}{x+1}$.

5. Find $\lim_{x\to -5}\dfrac{x^2+2|x|-35}{x+5}$.

6. Evaluate $\lim_{x\to 2}\left[2\dfrac{\sqrt{(2-x)^2}}{x-2}-\dfrac{x^2+4x-12}{|x^2-4|}\right]$.

7. Find $\lim_{x\to 0}\sqrt{\dfrac{1}{x^2}+\dfrac{1}{2x}}-\sqrt{\dfrac{1}{x^2}-\dfrac{1}{3x}}$.

8. Evaluate $\lim_{x\to 0}\lim_{y\to 0}||x|-|y||$.

9. Evaluate $\lim_{s\to 1}\dfrac{s-1}{|s|^3-1}$.

10. Find $\lim_{s\to 2}\sin(\pi\dfrac{s^2-2s}{|s^2-4|})$.