

# TMATH 124: Concept Check Day 2

Be sure to write down your ideas (numerically, algebraically, or geometrically) so that you can earn credit for your work!! To earn full marks for this you must attempt all problems.

1. Let  $f$  and  $g$  be functions such that  $\lim_{x \rightarrow 3} f(x) = 4$  and  $\lim_{x \rightarrow 3} g(x) = -2$ .

Find  $\lim_{x \rightarrow 3} \frac{2f(x)}{g(x)}$

2. Find  $\lim_{x \rightarrow -1} (x + 1)^2 - 2$ .

3. Find  $\lim_{x \rightarrow 0} \frac{(-7 + x)^2 - 49}{x}$

4. If  $3x - 2 \leq h(x) \leq x^2 - 3x + 7$  for  $x \geq 0$ . Find  $\lim_{x \rightarrow 3} h(x)$