1) Which of the following functions are continuous?

$$f(x) = x + 1$$

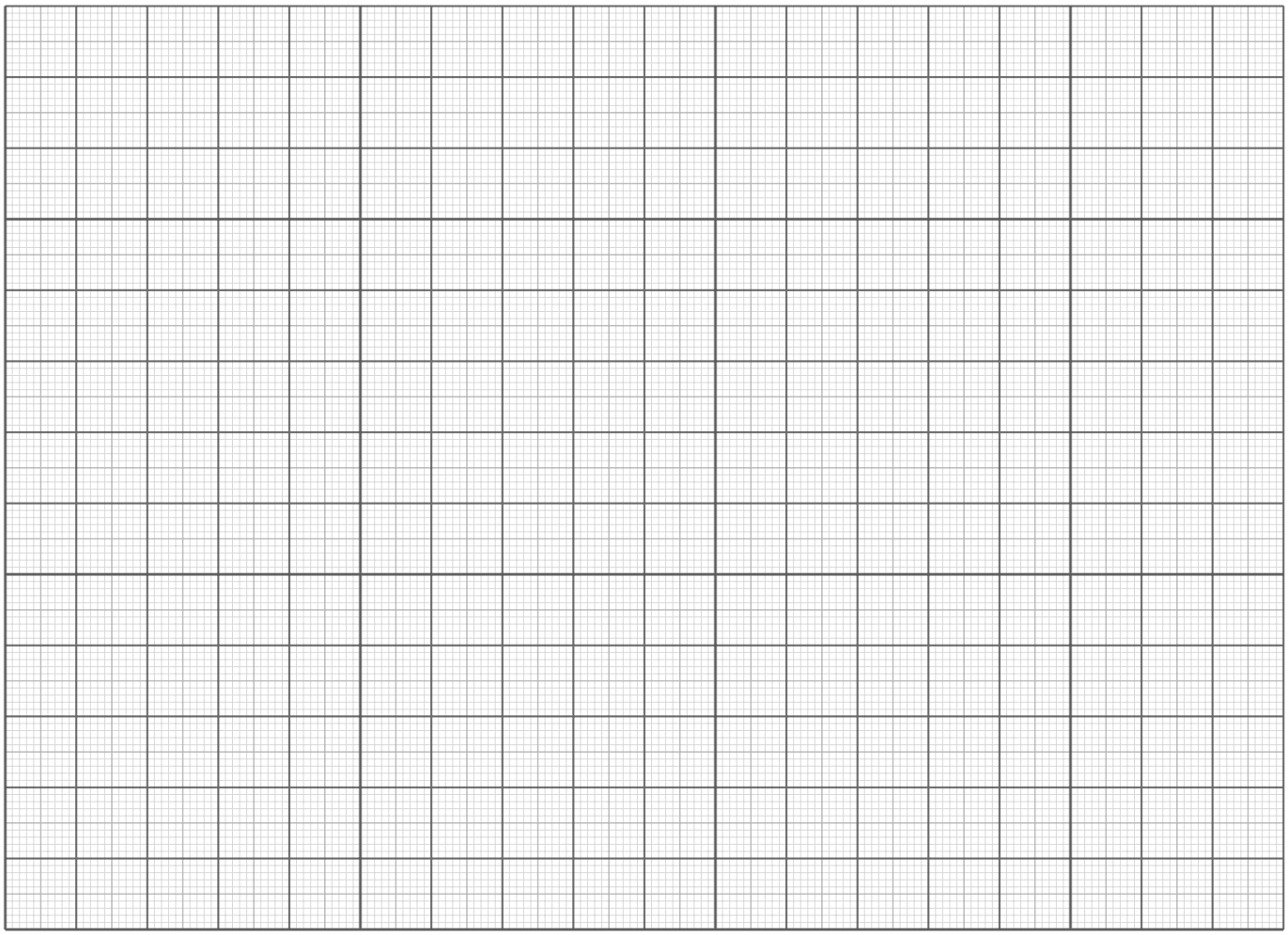
$$g(x) = \begin{cases} \frac{x^2-1}{x-1} & \text{if } x \neq 1 \\ 1 & \text{if } x = 1 \end{cases}$$

$$h(x) = \begin{cases} \frac{x}{|x|} & \text{if } x \neq 0 \\ 1 & \text{if } x = 0 \end{cases}$$

$$k(x) = \begin{cases} \frac{1}{x^2} & \text{if } x \neq 0 \\ 1 & \text{if } x = 0 \end{cases}$$

$$\ell(x) = \frac{1}{x}$$

$$m(x) = \begin{cases} \sin(1/x) & \text{if } x \neq 0 \\ 0 & \text{if } x = 0 \end{cases}$$



2) Of the discontinuities of the previous functions, what types of discontinuities do you see?

3) How can you relate these discontinuities with the definition?

4) Which of the functions could you adjust to make continuous? What kinds of adjustments would you make?