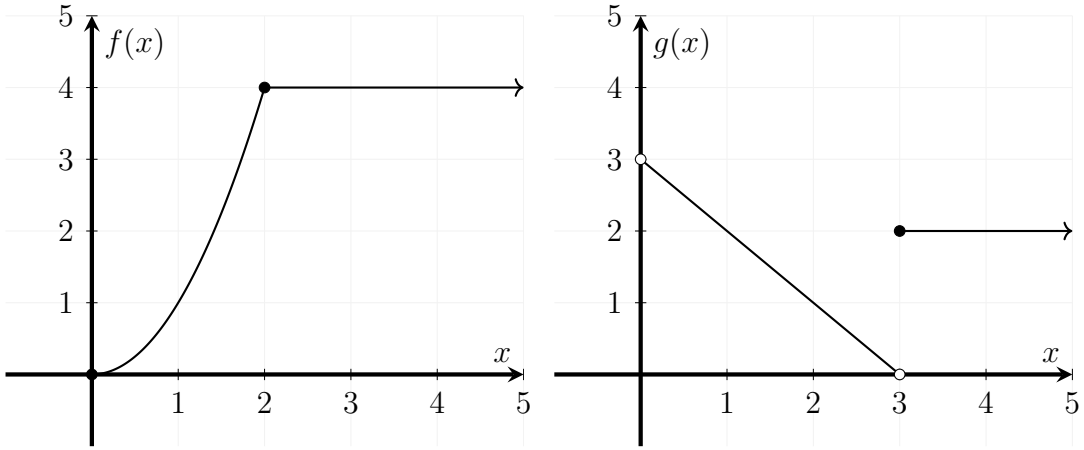
Quiz 4

Use the following graphs of the functions f and g for question 1,



1. Compute the following limits:

   (a) $\lim_{x\to 3^+} f(x)+g(x)$ (b) $\lim_{x\to 3^-} \frac{f(x)}{g(x)}$ (c) $\lim_{x\to 2} g(x)-f(x)$ (d) $\lim_{x\to 1} 3f(x)g(x)$

2. Compute
$$\lim_{x\to 0} \frac{\sin(7x)}{x}$$
3. What is the definition of a continuous function?
4. Is a polynomial continuous on the interval $[1,\infty)$?
5. What is the definition of a derivative at a point a?
6. What is the equation of the tangent line at $x=2$ of $f(x)=x^2$.