Math 1300 **Name:** _____
Fall 2025
Week 1 Quiz

1. (2 points) Consider a function f that has values given in the following table:

x	1.5	1.9	1.99	1.999	1.9999
$f(x)$	2.2500	3.6100	3.9601	3.9960	3.9996

From the above information, what can you conclude about $f(x)$ at $x = 2$?

(a) $f(x)$ is undefined at $x = 2$.

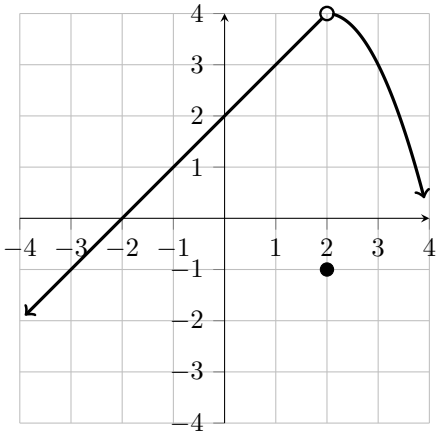
(b) $f(x)$ approaches 4 as x approaches 2 from the left.

(c) $f(x)$ approaches 4 as x approaches 2 from the right.

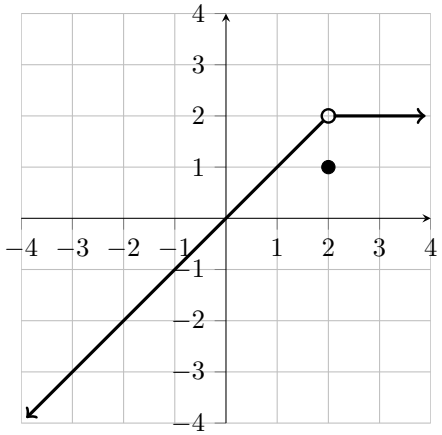
(d) $f(2) = 4$.

(e) $f(x)$ approaches 4 as x approaches 2 from both sides.

2. (2 points) Use the graphs of $f(x)$ and $g(x)$ to calculate the limit.



$f(x)$



$g(x)$

$\lim_{x \to 2} \big(f(x) \cdot g(x)\big) =$

(a) 8

(b) 4

(c) -1

(d) -8

(e) The limit does not exist

3. (2 points) Compute $\lim_{x \to 2} \dfrac{x^2 - 4}{x - 2}$ if it exists.

   (a) 0

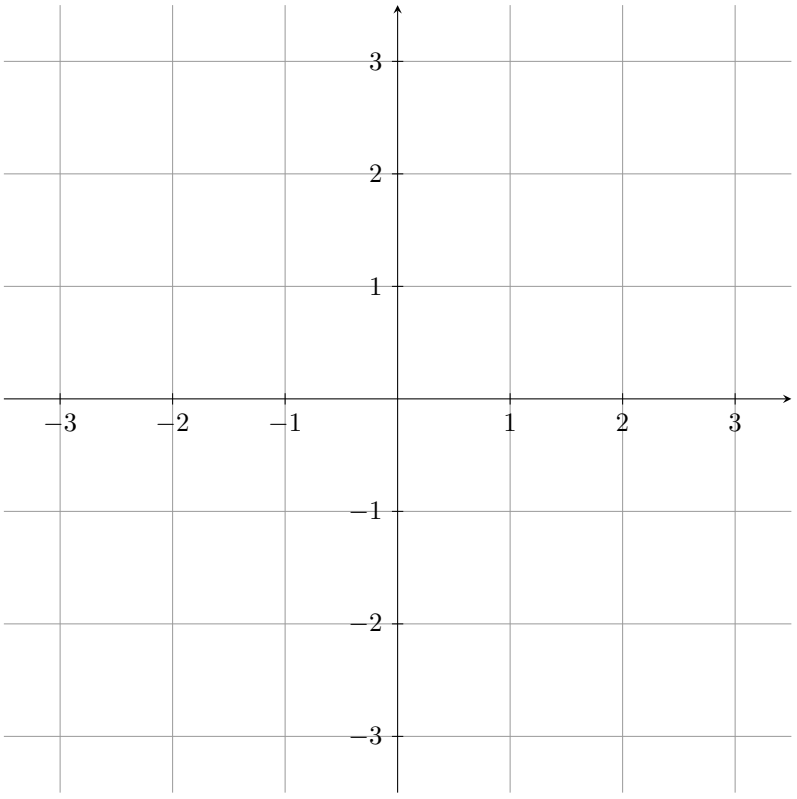
   (b) 1

   (c) 4

   (d) 6

   (e) The limit does not exist

4. (4 points) Draw the graph of a function f, whose domain contains $[-3, 3]$, that satisfies the properties below. Sketch your graph on the grid.



- $f(2) = 1$
- $f(-2) = 3$
- $\lim_{x \to 2^+} f(x) = -1$
- $\lim_{x \to 2^-} f(x) = 2$
- $\lim_{x \to -2} f(x) = 0$