- **Reminder:** Problem Set 1 is available on the course website, and is due **Thursday, September 26 by 11:59pm**.
  - You will get an email about a week before it's due telling you how to submit it online.
- Today's lecture will assume you have watched up to and including video 2.6.

For this Thursday's lecture, watch videos 2.7 through 2.9.

• You have homework for Thursday's lecture. See the last slide.

## Limits from a graph



Let f be a function, and let  $a, L \in \mathbb{R}$ .

Write down the formal definition of the statement

$$\lim_{x\to a}f(x)=L.$$

(Don't forget to introduce your variables and mention the domain of the function.)

## Complete this exercise for next class.

Earlier you wrote down the following definition.

## Definition

Let  $a, L \in \mathbb{R}$ . Let f be a function defined at least on an interval centred at a, except possibly at a.

Then 
$$\lim_{x\to a} f(x) = L$$
 means

 $\forall \varepsilon > 0 \; \exists \delta > 0 \; \text{such that} \; 0 < |x - a| < \delta \implies |f(x) - L| < \varepsilon.$ 

Now, write formal definitions of:

$$\lim_{x \to a^-} f(x) = L \quad \text{and} \quad \lim_{x \to a^+} f(x) = L$$