



Comparing functions

Two functions, two different forms

- Today: get both into the same form BEFORE comparing anything.

Every form hides something

- An equation shows the rate. A table hides it.
- A sentence buries both.

So the numbers you can SEE are not comparable.

A: $y = 3x + 2$

- Rate 3. Starts at 2.
- Both read straight off.

B: a table

- x : 0, 1, 2, 3 y : 5, 7, 9, 11
- Rate 2 (the step). Starts at 5.

The rate was never printed. You had to find it.

Now compare — but compare WHAT?

- A has the greater rate: $3 > 2$.
- B has the greater start: $5 > 2$.

“Which is bigger” is not one question.

They cross

- At $x = 3$ both give 11.
- Before that B leads. After it, A does.

A bigger rate wins eventually, not immediately.

From a sentence

- “Starts at 10, falls 4 each hour.”
- Start 10, rate -4 . So $y = -4x + 10$.

Words are a form too. Translate them.

Careful with graphs

- Two graphs, two different scales.
- Steeper on the page is not steeper.

Read the axes, then compare the numbers.