



Dependent & independent variables

Which one drives the other?

- Today: write an equation relating two quantities, and read it in a table.

A car drives at 55 mph

- Two quantities: time t and distance d .

Turn & talk: is it $d = 55t$, or $t = 55d$?

Two questions

- **Which one do I choose?** → independent
- **Which one responds?** → dependent, written alone on the left

$d = 55t$

- You choose the time; distance follows.
- At $t = 3$: $d = 165$ miles.

Sanity-check with a small number to catch a reversed equation.

Tables say the same thing

- $x: 1, 2, 3 \rightarrow y: 6, 12, 18$
- Each y is 6 times its $x \rightarrow y = 6x$

Test the rule on EVERY row, not just the first.

Your turn

- Notebooks cost \$8 each. Write an equation for cost c and number n .
- Thumbs up when you have it.

Adding is not multiplying

- $y = x + 10 \rightarrow$ shifts every value up by 10
- $y = 10x \rightarrow$ scales every value by 10
- At $x = 15$: 25 versus 150

Both grow, but very differently.

Now you

- → In-class practice sheet