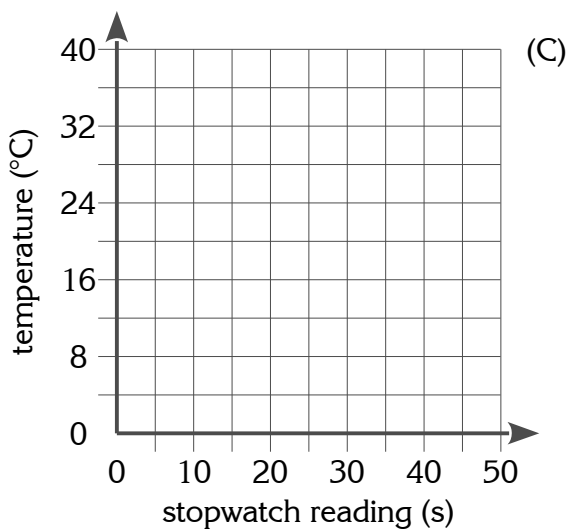
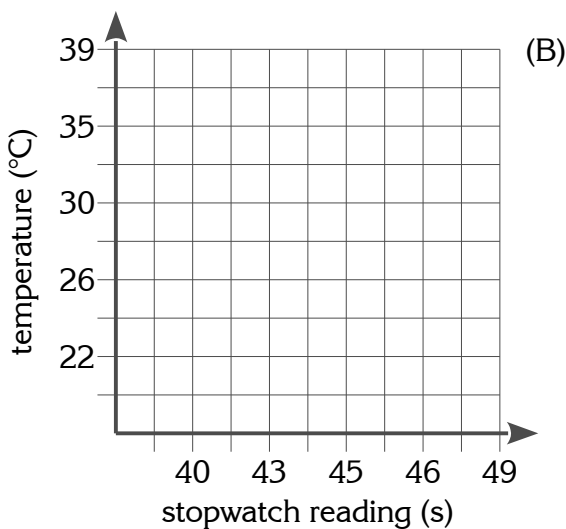
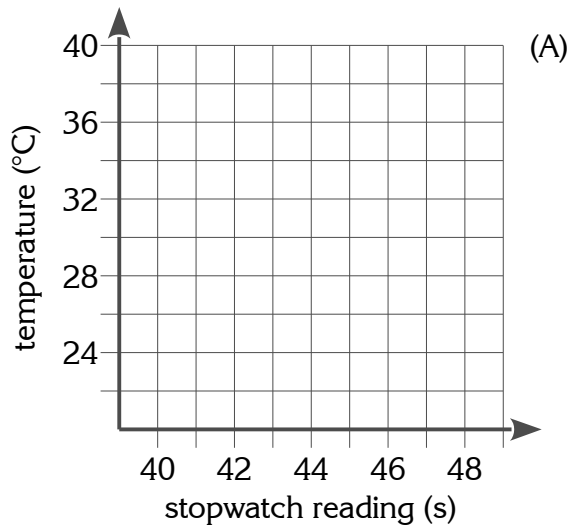


# Playing with Linear Models, Part 1

## Scales on the axes

Plot the points from the data table on each of these graphs, then draw in a best-fit line.

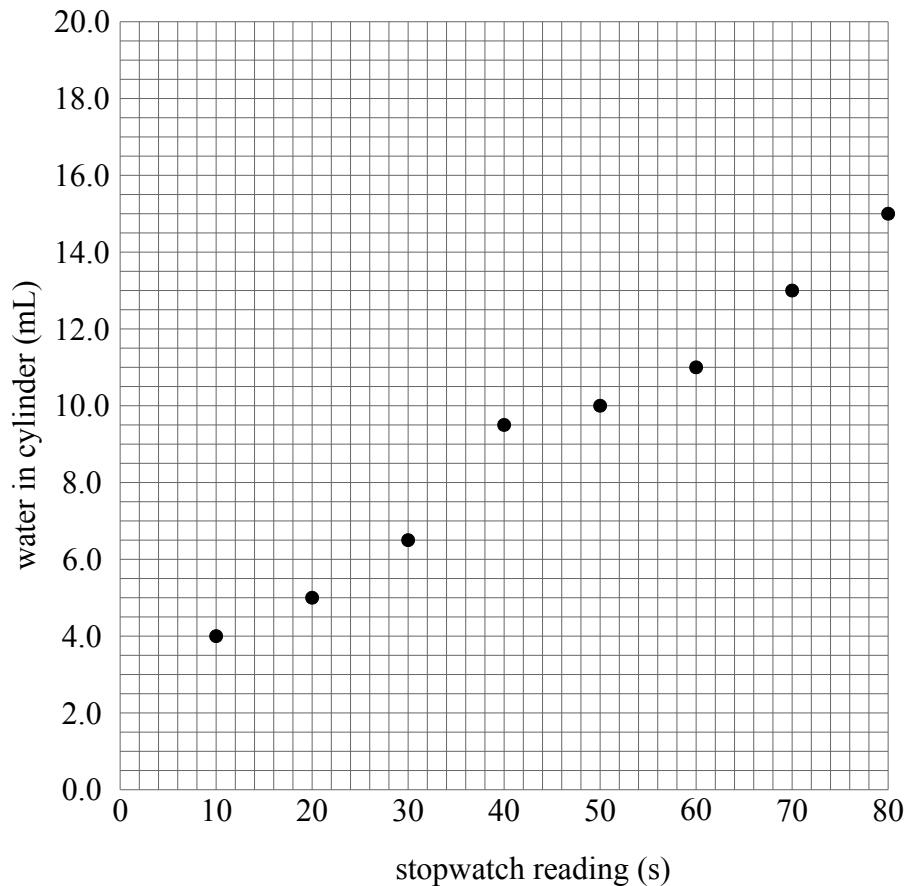
Stopwatch reading (s)	Temperature (°C)
40	22
43	26
45	30
46	35
49	39



Which graph (A, B, or C) gives the most accurate representation of the data? WHY? What is wrong with the other graphs?

## Water in a tube

This graph shows the amount of water found in a graduated cylinder placed out in the rain.



1. These points suggest that the variables might have a linear relationship. Sketch a best-fit-line onto the graph. Your line should have a  $y$ -intercept that is somewhere above the origin.
2. Find the slope of the line, including its units. (Slope = “rise” / “run”, remember?)
3. How much water enters the cylinder each second?
4. How much water enters the cylinder each 5 seconds?
5. Write out the whole equation for the line in the form  $y = m x + b$ .
6. What does the  $y$ -intercept tell you about the amount of water in the cylinder at the moment the stopwatch was started?