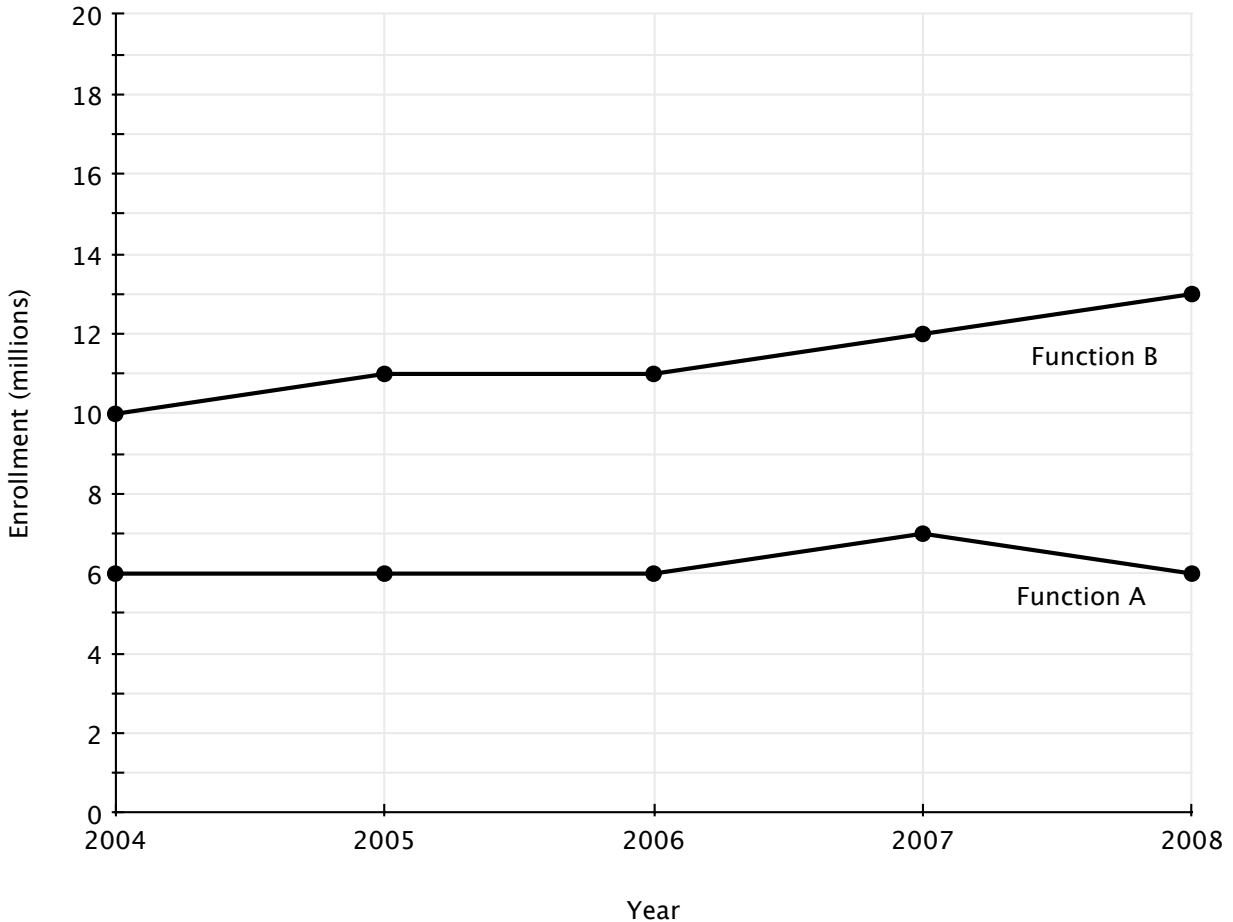


Math Lab: Combining Functions Graphically

These notes are intended as a summary of section 4.1 (p. 266 – 268) in your workbook. You should also read the section for more complete explanations and additional examples.

Part A — Adding Functions

The graph below shows two functions. Function A is college enrollment and Function B is university enrollment for the past few years. On the same grid, sketch a graph to show the total post-secondary enrollment for these years. Describe your strategy.

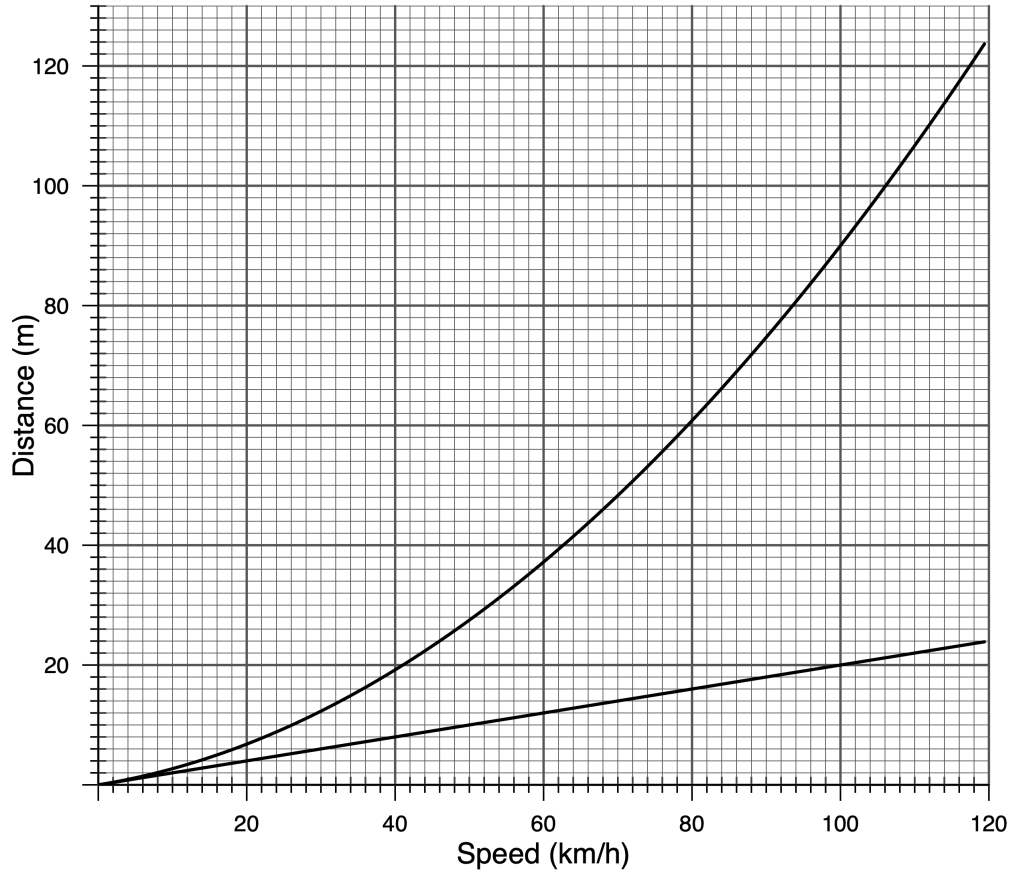


Part B — Subtracting Functions

The stopping distance for a car is a function of the speed of the car when the brakes are applied.

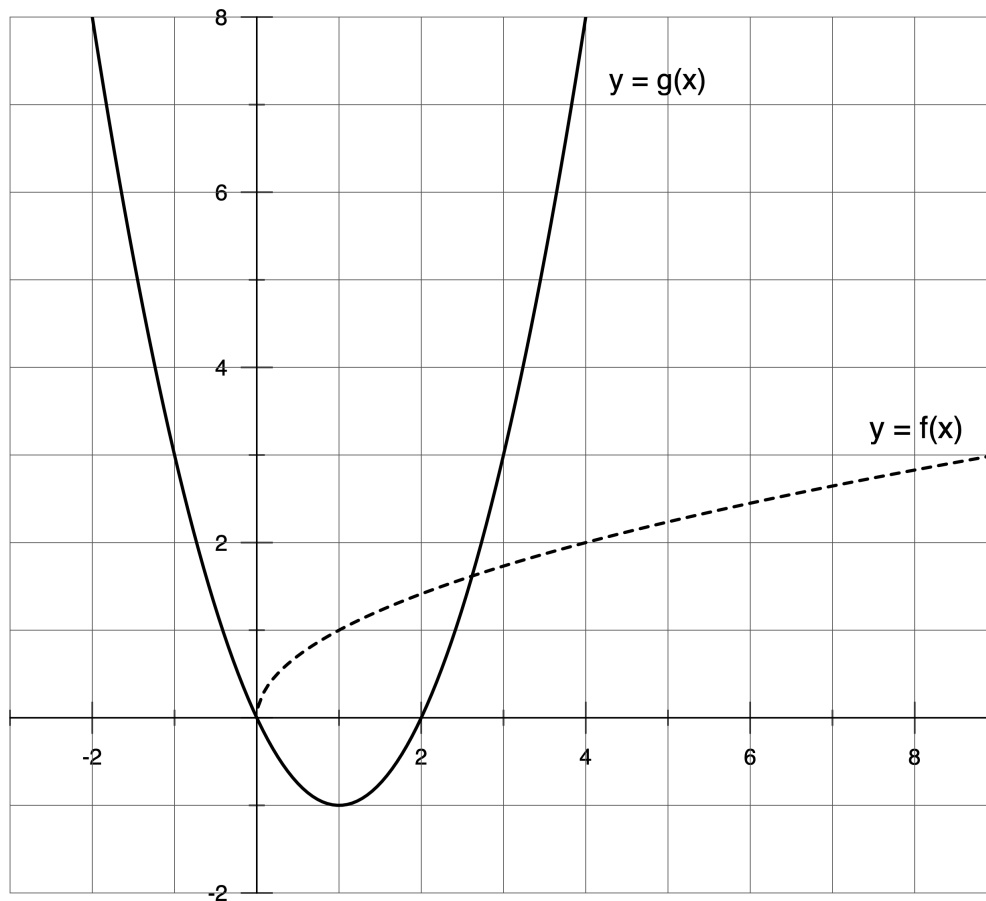
$$\text{stopping distance} = \text{reaction-time distance} + \text{braking distance}$$

The graph below shows functions for stopping distance (curve) and reaction-time distance (line) versus speed. On the same grid, sketch a graph for braking distance versus speed. Describe your strategy.



Part C — Multiplying Functions

The graphs of $y = f(x)$ and $y = g(x)$ are shown below. Adapt the strategy you used for Part A and Part B to graph the product of these two functions: $y = f(x) \cdot g(x)$. Describe your strategy.



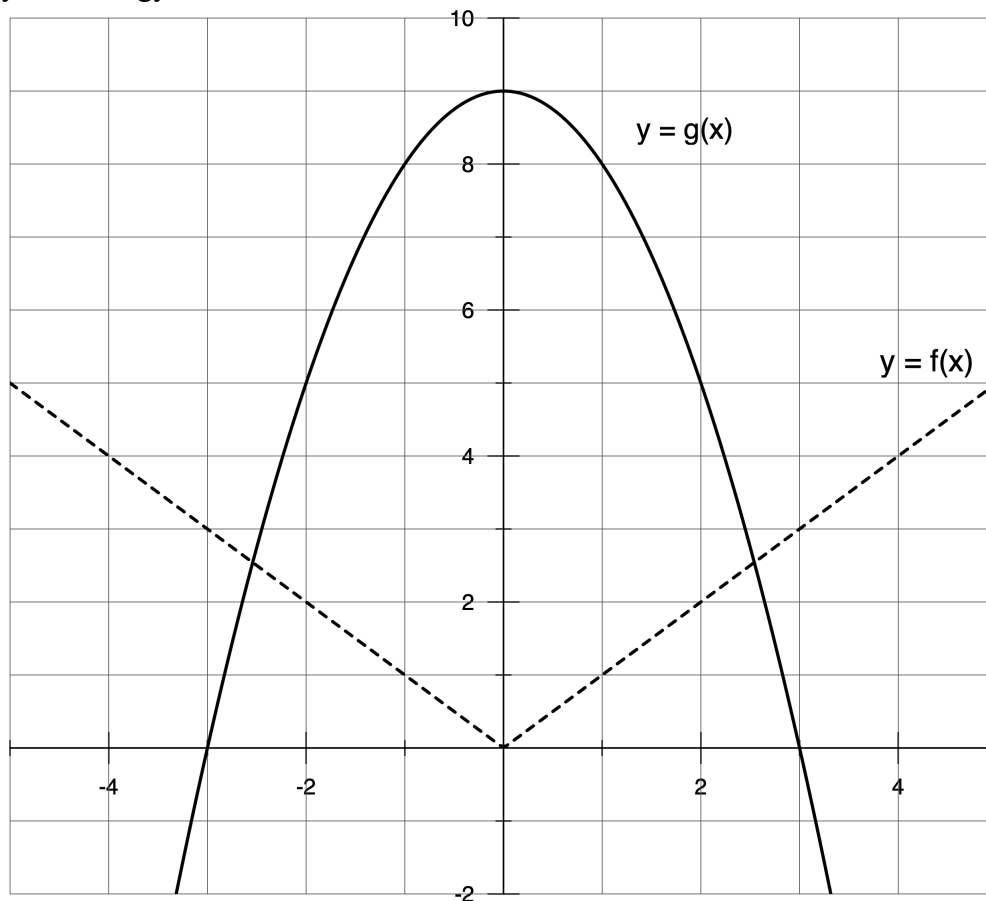
What are the domains of $y = f(x)$, $y = g(x)$, and $y = f(x) \cdot g(x)$?

Part D — Dividing Functions

The graphs of $y = f(x)$ and $y = g(x)$ are shown below. Adapt the strategy you used for Part A and Part B to graph the quotient of these two functions:

$$y = \frac{f(x)}{g(x)}$$

Describe your strategy.



What are the domains of $y = f(x)$, $y = g(x)$, and $y = \frac{f(x)}{g(x)}$?

Homework: #1 – 3 in the section 4.1 AYU (p. 268 – 271). Answers on p. 271.