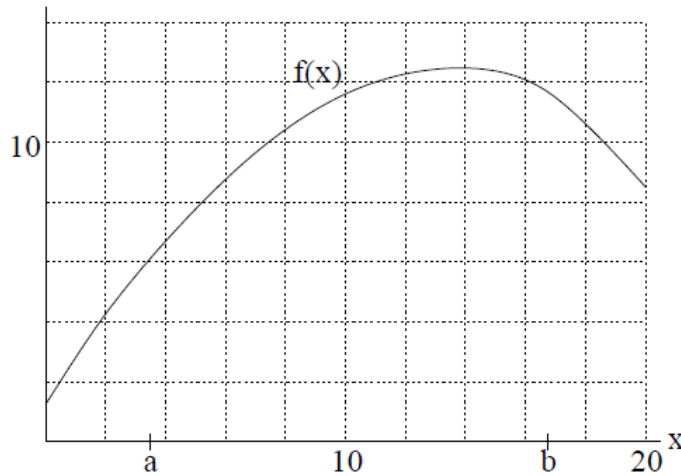


Section 2.1 – Input and Output

Preliminary Example. Complete each of the following.



1. $f(10) =$ _____.
2. If $f(x) = 10$, then $x =$ _____.
3. $f(a) =$ _____.
4. $f(10) - f(6) =$ _____.

Examples and Exercises

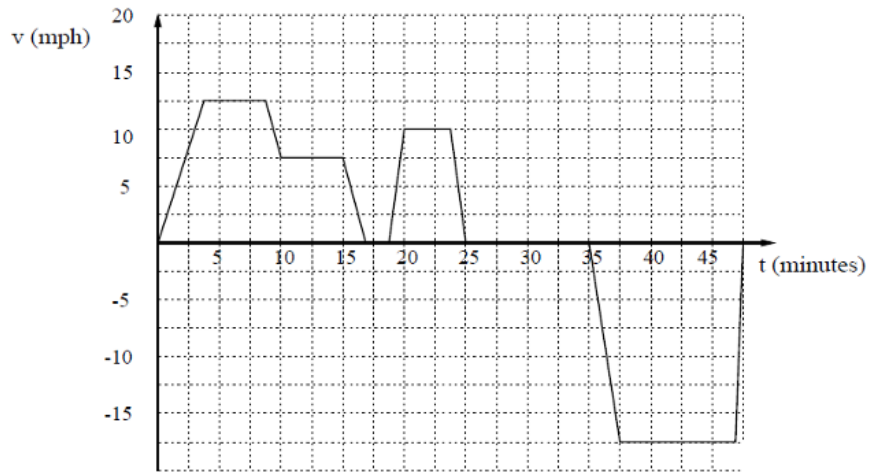
1. The following table shows the amount of garbage produced in the U.S. as reported by the EPA.

t (years: 1960 \equiv 60)	60	65	70	75	80	85	90
G (millions of tons of garbage)	90	105	120	130	150	165	180

Consider the amount of garbage G as a function of time $G = f(t)$. Include units with your answers.

- (a) $f(60) =$
- (b) $f(75) =$
- (c) Solve $f(t) = 165$.

2. Given is the graph of the function $v(t)$. It represents the velocity of a man riding his bike to the library and going back home after a little while. A negative velocity indicates that he is riding toward his house, away from the library.



Evaluate and interpret:

(a) $v(5) =$

Solve for t and interpret:

(d) $v(t) = 5$

(b) $v(40) =$

(e) $v(t) = -10$

(c) $v(12) - v(7) =$

(f) $v(t) = v(10)$

3. Consider the functions given below.

(a) Let $f(x) = x^2 - 2x - 8$.

i. Find $f(0)$.

ii. Solve $f(x) = 0$.

(b) Let $f(x) = \frac{1}{x+2} - 1$

i. Find $f(0)$.

ii. Solve $f(x) = 0$.

4. Let $f(x) = \frac{x}{x+1}$. Calculate and simplify $f\left(\frac{1}{t+1}\right)$, writing your final answer as a single fraction.