



Math122 College Algebra

Professor Douglas J. Ryan

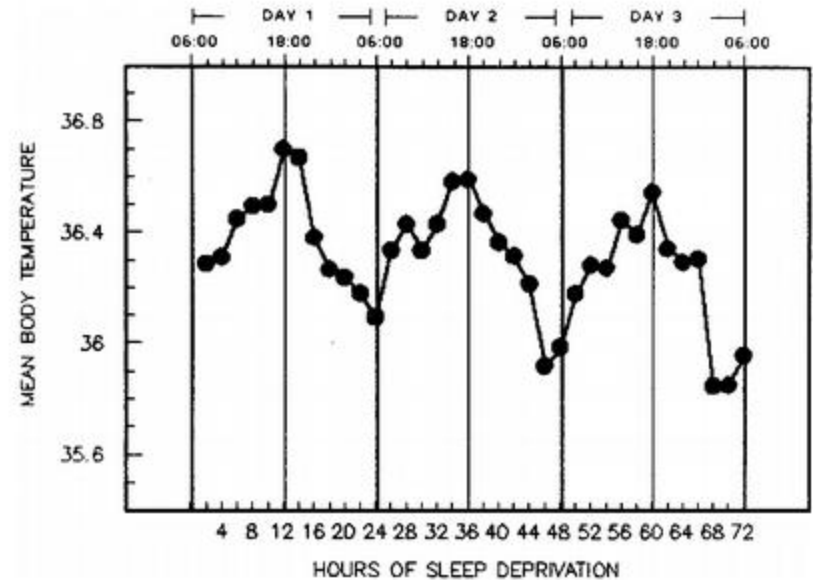
3.3

Getting Info From A Graph

- A complete graph of a function provides an incredible amount of information including
 1. the domain and range
 2. the minimum and maximum values
 3. where the function increases and decreases
 4. function value for a given input value

Problem

- For the given graph, find the
 1. domain
 2. range
 3. independent variable
 4. dependent variable
 5. value of $f(12)$
 6. values for hours where $f(\text{hours}) < 35.9$



Increasing Functions

- It is often useful to know where a graph rises and falls
- f is increasing on an interval I if $f(x_1) < f(x_2)$ whenever $x_1 < x_2$ in I
- Show graphically what this means

Decreasing Functions

- f is decreasing on an interval I if $f(x_1) > f(x_2)$ whenever $x_1 < x_2$ in I
- Show graphically what this means

Problem

- Consider the function $f(x) = 5x - x^2$
- Find the domain
- Find the range (tricky)
- Find the x-intercepts
- Find the y-intercepts
- Find the interval where f is increasing
- Find the interval where f is decreasing
- Graph the function