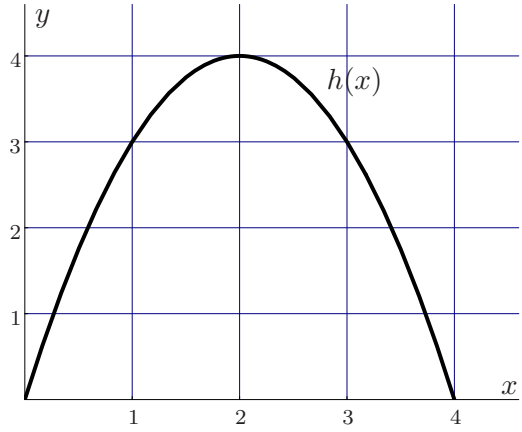
3. (9 points) Problems (a) and (b) below are independent of each other.

(a) (6 pts.) The graph of a function $h(x)$ is given below.



• Numbers:

$A = h'(1)$, $B = h'(2)$, $C = h'(3)$, $D = h'(3.001)$, $E = \dfrac{h(3)}{3}$, $F = \dfrac{h(3) - h(2)}{3 - 2}$.

• Write the numbers A–F from smallest to largest:

(smallest) (largest)

(b) (3 pts.) Consider the function $w(x)$ given by:

$$w(x) = \begin{cases} -x + 3, & 0 \le x < 1 \\ 2x, & 1 \le x \le 2 \end{cases}$$

Write the the numbers L, I, R (defined below) from smallest to largest.

• Numbers:

L = Left-hand sum of w over [0,2] using 2 subdivisions

$I = \displaystyle\int_0^2 w(x)\, dx$

R = Right-hand sum of w over [0,2] using 2 subdivisions.

• Ordered numbers:

(smallest) (largest)