

- How can we estimate, from a graph, the derivative of a function at a point?
- Derivative function
- Implication of  $f' > 0$  and  $f' < 0$
- How to estimate derivatives from tabular data (how can this be done more accurately?)
- $f'(x)$  for  $f(x) = k$
- $f'(x)$  for  $f(x) = mx + b$
- $f'(x)$  for  $f(x) = x^n$

1. If the graph of a function  $f(x)$  passes through the points  $(0,0)$ ,  $(0.5,0.354)$ ,  $(1,1)$ ,  $(1.5,1.837)$ , and  $(2,2.828)$ , estimate the value of the derivative function  $f'(x)$  at these  $x$ -values.

- 2.** Using a formula, find the derivatives of the functions  $f(x) = 3 - 8x$  and  $g(x) = x^{12.8}$ .