

## Linearizations

Suppose  $f$  is differentiable at  $x = c$ . The linearization of  $f$  at  $x = c$  is the function

$$L(x) = f(c) + f'(c)(x - c).$$

The approximation  $f(x) \approx L(x)$  is called the standard linear approximation of  $f$  at  $c$ .