

Deriving the Derivative

This extra credit assignment is due Monday, March 1st, at the BEGINNING of class. Late papers will NOT be accepted. Students can earn up to 10 extra credit quiz points.

Use the limit of the difference quotient definition to derive the derivatives below.

Your work must be neat and legible to be reviewed for credit.

f and g are both differentiable and c is a constant.

1. $\frac{d}{dx} c$

2. $\frac{d}{dx} cx$

3. $\frac{d}{dx} [f(x) + g(x)]$

4. $\frac{d}{dx} [f(x) - g(x)]$

5. $\frac{d}{dx} [cf(x)]$