

Topics for Chapter 3 Test 1

1) The Derivative

a) Finding the equation of a tangent line

b) Definition: $f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$

c) Derivative at a point: $f'(a) = \lim_{x \rightarrow a} \frac{f(x) - f(a)}{x - a}$

2) Differentiability

a) Continuity

b) Using limits to prove differentiability

3) Rules of differentiation

a) Power rule

b) Product and Quotient Rules

4) Rates of Change

a) Position, velocity, and acceleration

b) Other rate of change problems; Quantities, etc. (Section 3.4), not including marginal cost.

Note sheets are allowed with the same rules applying as on the Chapter 2 Test.
Calculators are allowed.