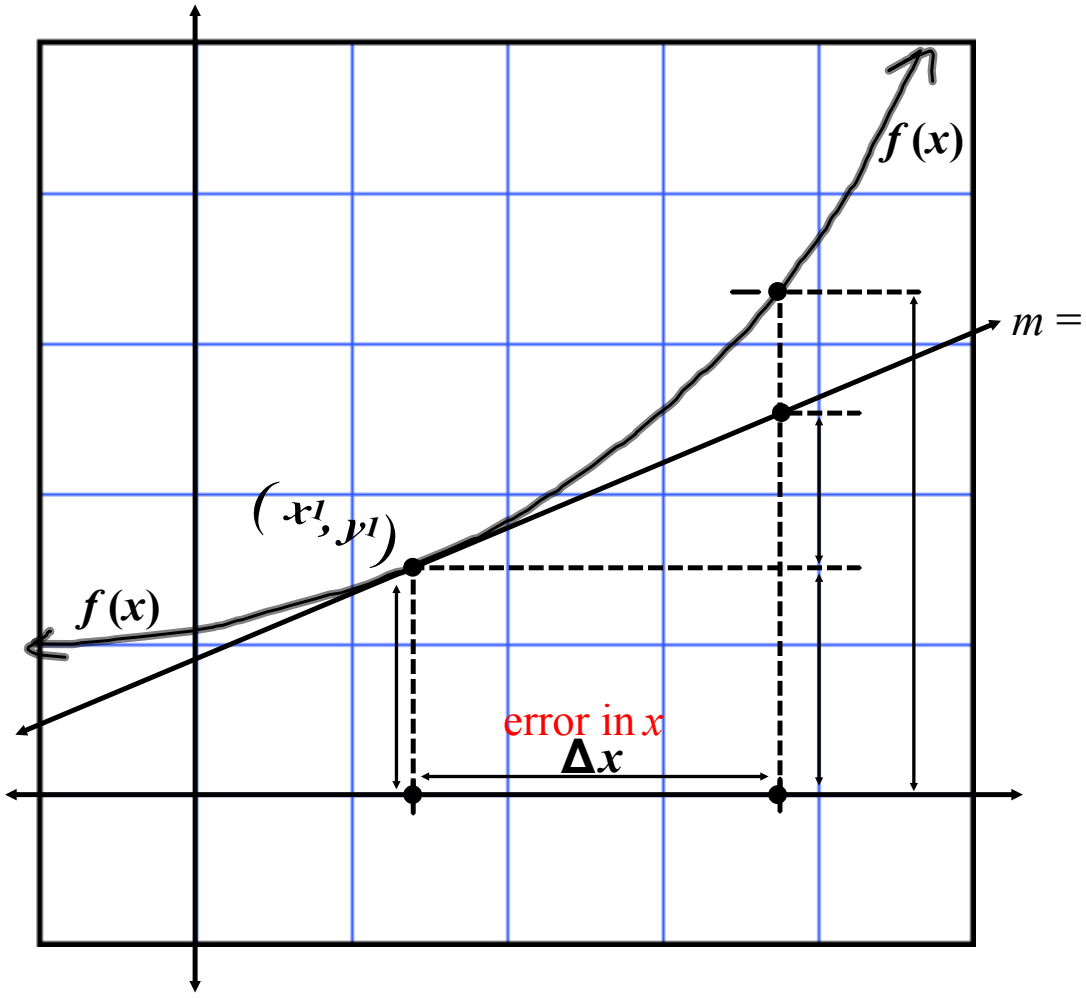
Calculus AB

3-9

Differentials

What is Propagated Error?



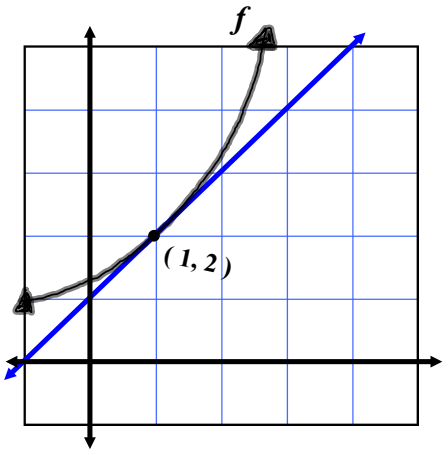
Use the information to evaluate and compare Δy and dy. (pg 240)

old book 7) $y = \frac{1}{2}x^3$ $\quad x = 2$ $\quad \Delta x = dx = 0.1$

Find the differential dy of the given function.

*) $y = 4x^3 - 12$

*) Use differentials and the graph of f to approximate
(a) $f(0.9)$ and
(b) $f(1.04)$



Day 1 Assignment:
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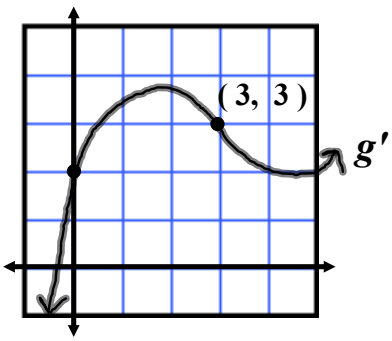
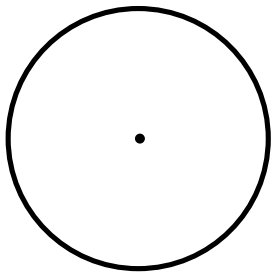
26) Use differentials and the graph of g' to approximate
(a) $g(2.93)$ and
(b) $g(3.1)$ given that $g(3) = 8$



28) The measure of the base and altitude of a triangle are found to be 36 cm and 50 cm, respectively. The possible error in each measurement is 0.25 cm. Use differentials to approximate the possible propagated error in computing the area of the triangle.

32) The measurement of the circumference of a circle is found to be 64 cm, with a possible error of 0.9 cm.



a) Approximate the percent error in computing the area of the circle.

b) Estimate the maximum allowable percent error in measuring the circumference if the error in computing the area cannot exceed 3%.

Day 2 Assignment:

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