

2-9 Videos Guide

2-9a

- Linear approximation/linearization of f at a
 - $f(x) \approx L(x) = f(a) + f'(a)(x - a)$

Exercise:

- Find the linearization to $f(x) = \sqrt{x}$ at $x = 1$ and use it to approximate $\sqrt{1.1}$.

2-9b

- Differentials
 - $dy = f'(x)dx$

Exercise:

- Use differentials to estimate the amount of paint needed to apply a coat of paint 0.05 cm thick to a hemispherical dome with diameter 50 m.