1. A rocket is launching, and its height h in meters is a function of t in seconds (so we are considering the function h(t)). Explain what h'(10) = 1035 means in language your mom could understand. You answer must include units.

Compute derivatives of the following functions using derivative rules.

2. $f(x) = \sqrt{t}e^t$

3. $f(t) = e^{-t}$

4. $f(t) = e^{2t}$

5.
$$f(v) = \left(1 + \frac{1}{v}\right) \left(2 - \frac{1}{v}\right)$$

6.
$$f(x) = \frac{e^{2x}}{1 - e^x}$$

7.
$$f(t) = \frac{\sin(x)}{\cos(x)}$$

8.
$$f(t) = e^{2x} \sin(x)$$

9.
$$f(t) = (1 + x^2)e^x \sin(x)$$