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 parents could understand. You answer must include units.

Compute derivatives of the following functions using derivative rules.

2.
$$f(t) = e^t \cos(t)$$

3.
$$f(x) = \frac{x}{1 + e^x}$$

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

5.
$$e^{-t}\cos(t)$$

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

7.
$$f(x) = (1 + x^2)e^x \sin(x)$$

8.
$$f(v) = \left(1 + \frac{1}{v}\right) \left(2 - \frac{1}{v}\right)$$

9.
$$f(\theta) = \frac{\sin(\theta)}{\cos(\theta)}$$