1) Find the derivative of each of the following functions.

(A) $f(x) = 3x^7$

$$f'(x) = 21x^6$$

(B) $g(x) = x^5 \sin(x)$

$$g'(x) = 5x^4 \sin(x) + x^5 \cos(x)$$

(C) $h(x) = \frac{\sqrt{x}}{2^x}$

$$h'(x) = \frac{\frac{1}{2\sqrt{x}}2^x + \sqrt{x}2^x \ln(2)}{(2^x)^2}$$

2) Sketch a graph of the derivative of the function shown here.