MATH 2B/5B Prep: Chain Rule

1. Find
$$\frac{\mathrm{d}}{\mathrm{d}x}\arctan(\sqrt{x})$$
.

2. If
$$f(x) = \cos(e^{5x})$$
 then what is $f'(x)$?

3. Compute the derivative of $\frac{1}{g(x)}$ in terms of g(x) and g'(x).