SECOND LIST OF DERIVATIVES for THE FIRST MIDTERM

\[(g(x)^n)' = ng(x)^{n-1}g'(x),\]
\[(e^{g(x)})' = e^{g(x)}g'(x), \quad \text{compute } (e^{g(x)})' \text{ using } c^{g(x)} = e^{g(x)\ln c},\]
\[(\sin g(x))' = g'(x) \cos g(x), \quad (\cos g(x))' = -g'(x) \sin g(x),\]
\[(\tan g(x))' = g'(x) \sec^2 g(x), \quad (\cot g(x))' = -g'(x) \csc^2 g(x),\]
\[(\sinh g(x))' = g'(x) \cosh g(x), \quad (\cosh g(x))' = g'(x) \sinh g(x).\]

You are expected to be able to quickly compute the following derivatives:

\[(\sec g(x))', \quad (\csc g(x))',\]
\[(\tanh g(x))', \quad (\coth g(x))', \quad (\sech g(x))', \quad (\csch g(x))'.\]