Name: _____ I.D. # _____ Sr. # ____

1. Find a linearization for $f(x) = \sqrt[4]{1+2x}$, and use it to approximate $f(7.4)$.

2. Given $\coth x = \dfrac{5}{4}$, find the values of the other hyperbolic functions at x.

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1. Use differential to approximate $(0.97)^{12}$.

2. Given $f(x) = \operatorname{csch} x \left(1 - \ln\left(\operatorname{sech} x\right)\right)$, find $f'(x)$.