Lecture 22 Activity: Newton's Method and Antiderivatives

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1. Use Newton's Method and a calculator to estimate $\sqrt[4]{2}$ correct to 4 decimal places. (Hint: Use $f(x) = x^4 - 2$ with starting approximation 1.)
2. Find general antiderivatives of the following functions.
   - 2.1 x^4
   - 2.2 $3x^2 + \sin x$
   - 2.3 $\frac{5}{1+x^2}$
3. Find the antiderivative of $2x + 1$ that passes through the point $(1, 4)$.