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# Numerical Analysis

Math 370 Fall 1998  
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MWF 11:30am - 12:25pm  
Fowler 127

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## *Class 18: Friday October 16*

**SUMMARY** Using MATLAB to find roots

**READING** Burden & Faires, 78–86

### **fzero** and **roots**

Even though we now know a number of different methods to find roots, in practice people usually use what tool is close by. If you had to use MATLAB to find the root of a function you would probably just use the built-in m-file functions **fzero** and **roots**.

**roots** is used to find the roots of a polynomial. Let's use it to find the roots of our original function  $f(d) = 2552 - 30d^2 + d^3$  What are they?

**fzero** is used to find the roots of other non-linear functions. Let's try and find the fixed points of  $\ln(x + 2)$ .

**fzero** uses a combination of Bisection, Reverse Quadratic Interpolation and Secant Method.