1. Find the value of $\sqrt[3]{47}$ to within 5 decimal places using *each* of the following methods.

   (a) Use the Newton's Method tool found on the main toolbar
       Tools-Tutors-Calculus-Single Variable-Newton's Method.
       Display the plot in your worksheet and state the value of your approximation in a complete sentence.

   (b) Use the *Student*[*Calculus1*] package. Display the sequence, an animation, and state the approximation in a complete sentence. Also, set the animation frame speed to 3 frames per second (FPS).

   (c) Write a procedure in Maple that carries out Newton's Method. A suggested method is to use the procedure command, *proc*. Display the sequence generated and then state your approximation in a complete sentence.

2. Use Newton's Method to find all of the roots of

$$x^4 - 3x^3 - 29x^2 + 23 = 0$$

   to the nearest ten-thousandth. At a minimum, display each sequence and state the approximations in a complete sentence.

3. Use Newton's Method to solve the following problem to the nearest 0.001%. U.S. tax law allows taxpayers to deposit $5000 per year in tax-sheltered individual retirement accounts (IRAs). What interest rate will produce $1,000,000 after 35 years of faithful contributions? Use the compound amount formula: If p dollars are deposited yearly at an effective annual interest rate r, then the total value $V(n)$ after n years is given by

$$V(n) = \frac{p}{r}\left((1+r)^{n+1} - 1\right).$$

   At a minimum, display the sequence and state your approximation in a complete sentence.