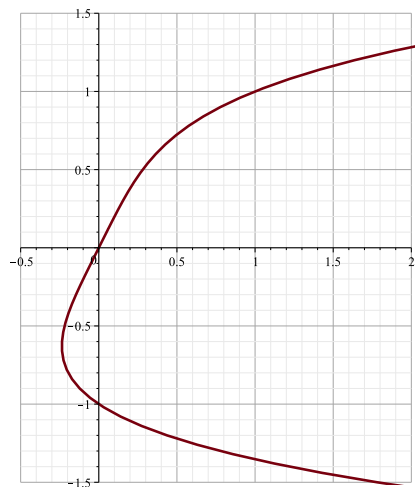# MAT125, Paper Homework "Appx"

1. Observe that $(1, 1)$ lies on the curve satisfying

$$y^4 + y = 2x,$$

   which has the graph shown at right.

   Use the tangent line at $x = 1, y = 1$ to approximate the y-value of a point on the curve with $x = 1.2$.
   Is your approximation too large or too small?

2. Sketch the graph of $f(x) = 3x^5 - 20x^3$. Locate all critical points, label those which are relative minima and maxima. Also, locate all inflection points.