

Problem Set 7

Wednesday, March 22

I. Problems to be graded on completion.

1. Graph $y = x^4 - 4x^3 + 1$.
2. Graph $y = \frac{x^2 - 3}{x^3}$.
3. Graph $y = \log \frac{x^4}{x - 1}$.
4. Graph $y = xe^{-x}$.
5. Graph $y = e^{-x^2}$. This is the famous *bell-shaped curve*. The maximum point is called the *mean*, and the distance from the mean to either inflection point is called the *standard deviation*.

II. Problems to be graded on correctness.

1. Let $r > 2$ be a constant. Graph $y = (1 + x)^r - (1 + rx)$ on the interval $[-1, \infty)$.