Math 122
Exam 2

1. Find the volume of the solid obtained by rotating the region bounded by $y = \sqrt{x}$, $y = 2$, and the y-axis about the y-axis.

2. Use the ratio test to find the radius of convergence of the series $\frac{x}{3}+\frac{2x^2}{5} + \frac{3x^3}{7} + \frac{4x^4}{9} + ...$

3. Find the first four nonzero terms of the Taylor series about 0 of $arcsinx$.

4. Find the sum of the series $-2 + 1 - \frac{1}{2} + \frac{1}{4} - \frac{1}{8} + \frac{1}{16} - ...$

5. Find the sum of the series $8 + 8(.2)^2 + \frac{8(.2)^4}{2!} + \frac{8(.2)^6}{3!} + ...$

6. Find the volume of the solid obtained by rotating the region bound by $y = x^4$ and $y = 1$ about the line y=3.

7. Use the ratio test to find the radius of convergence of the series $1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + ...$