MAT 201   Test 4 – Spring, 2015   Name_____

20 Points   Covers Section 4.1, Riemann Sums   Use of Technology Recommended.

Instructor: Harry S. Mills

        Show all work. Do your own work. Submit problems in the proper order. Spread your work out! If you get stuck, start a fresh piece of paper. You can always *insert* more pages if you do it this way. Only your *name* should be on this cover sheet. Test is 50 minutes. Start a 12:10. End at 1:00.

1. (20 pts) Approximate the area under the curve $f(x) = \sqrt{16 - 4x^2}$ between $x = -1$ and $x = 2$, with a Riemann sum of 8 rectangles. Use Right Endpoints. Managing your roundoff error is worth ¼ of the credit, here. If you're lax or eager to round off, to save time, it'll cost you 5 points, and I better see 3-decimal-place accuracy in your final answer.

Bonus.

2. (5 pts) Find all real zeros and factor $f(x) = 4x^3 - 12x^2 + 6x + 4$ over the set of real numbers. Then sketch the graph of f, showing all extremes and inflection points. If I don't see the

3. analysis, then no credit.

Graph for #1