

Test 1 – Calculus I Score Summary

Are you wondering how you fared compared to the other members of your class? Here are some statistics for the first test for sections 22 and 26.

- **The average score percentage was about 55.50%.** Section 22 had an average of about 55.67%, while section 26 had an average of about 53.11%.
- **The hardest problem was horizontal asymptotes.** In both sections, the problem on which students earned the least points was number seven:

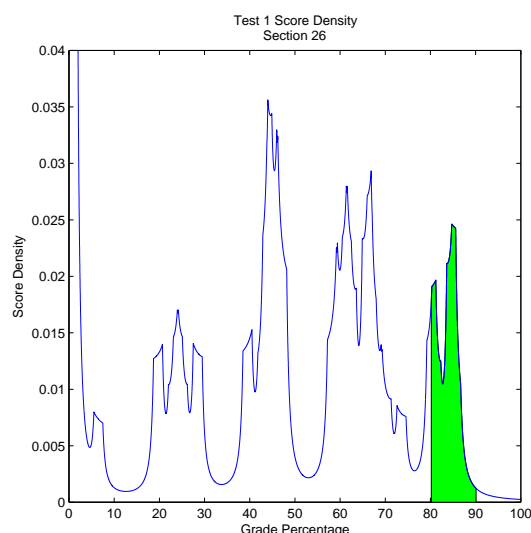
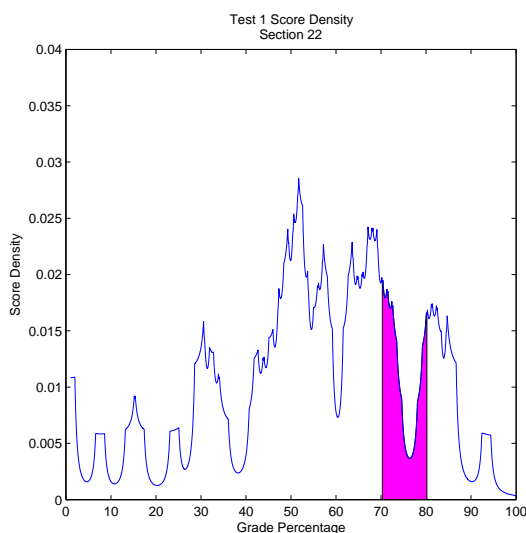
Suppose that $f(x) = \frac{4x^5 - x^3}{\sqrt{4x^{10} - 3x^7}}$. Find all horizontal asymptotes of $f(x)$, if they exist.

The answer? See all the answers in the “Files” section of WebCourses under the folder “Test 1.”

- **Score Densities:**

For the Skills Test 1 score summary, we showed the distribution of grades as a histogram. Unfortunately, histograms have their limitations because the shape can change dramatically by how you choose to make it.

It's generally better to use a density function. A density function represents the distribution of grades by the area under a curve. Finding the area under a curve is called *integration*, which, along with differentiation, forms the two major operations in calculus.



To use a density function, you look at the area under the curve in your region of interest. For instance, if you were interested in how many people got a B or B+ in section 26, you would calculate the area that's shaded green from 80 to 90 in the graph on the right. Using mathematics software, the value turns out to be 0.1263, or about 12.63% of the students in section 26 earned a B or B+. About 11.14% of students in section 22 earned a C or C+ (magenta region).

At a glance, we can see how the grades turned out overall. This is one of the many important applications of calculus that make this subject so fundamental and essential.