

The average was approx 50 out of 100, with high scores of 100 and 90. I have not set a scale, but a 50 would probably be a low C. Review any problems you missed, perhaps with help from our LA. Study any listed review topics that you have not yet mastered.

1a. $\ln(e^{1/2}) = 1/2$ because these are inverse functions. **1b.** $\pi/4$, from memory of $\tan(\pi/4)$.

2a. $\frac{3}{x^2+9}$ by factoring out x^2 from every term and canceling.

2b. $1/3$. The limit is indeterminate. The highest powers are the same on top and bottom, allowing shortcuts, like removing the 2 and 4, or L'Hopital's rule.

3. $2/9$. Apply L'Hopital's rule twice.

4. Get $g'(x) = 2x \cos(x^2)$ [chain rule]. So, $g''(x) = 2 \cos(x^2) - 4x^2 \sin(x^2)$ [product rule].

5a. $x^4/2 + \tan x + \frac{1}{3x} + C$

5b. $\frac{(x^4+9)^{3/2}}{6} + C$ based on the u-substitution, $u = x^4 + 9$.