Dawson College: **Calculus II**: 201-NYB-05-S3: Fall 2010

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Bonus Quiz 1

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This quiz is graded out of ~~10~~ marks. No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

(8) $\lim_{x\to\frac{\pi}{2}} \frac{1-\sin\theta}{\csc\theta}$

$= \frac{1-\sin(\frac{\pi}{2})}{\csc(\frac{\pi}{2})}$

$= \frac{1-1}{1}$

$= 0$

(16) $\lim_{x\to 0} \frac{\cos mx - \cos nx}{x^2}$ I.F $\frac{0}{0}$

$= \lim_{x\to 0} \frac{-\sin(mx)\,m + \sin(nx)\,n}{2x}$ by $\overset{1}{H}$ I.F. $\frac{0}{0}$

$= \lim_{x\to 0} \frac{-\cos(mx)\,m^2 + \cos(nx)\,n^2}{2}$ by $\hat{H}$

$= \frac{-\cos(0)m^2 + \cos(0)n^2}{2}$

$= \frac{n^2 - m^2}{2}$

(20) $\lim_{x\to 0} \frac{1-e^{-2x}}{\sec x}$

$= \frac{1-e^{0}}{\sec 0}$

$= \frac{1-1}{1}$

$= 0$