Dawson College	Calculus II	SCIENCE	: 201-NYB-05-S4:	Winter 2011
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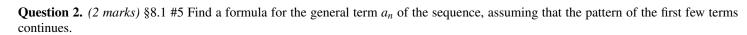
Quiz 9

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.

Question 1. (5 marks) §7.3 #15

Use the method of cylindrical shells to find the volume generated by rotating the region bounded by the given curves about the specified axis. Sketch the region and a representative rectangle.

$$y = x^2$$
, $y = 0$, $x = 1$, $x = 2$; about $x = 1$



$$\left\{1,\,-\frac{2}{3},\,\frac{4}{9},\,-\frac{8}{27},\ldots\right\}$$

Question 3. (3 marks) §8.1 #26 Determine whether the sequence converges or diverges. If it converges, find the limit.

$$a_n = \frac{(\ln n)^2}{n}$$

Bonus. (5 marks) Evaluate the indefinite integral:

$$\int \frac{3x^2 + 3x + 2}{x^3 + 2x} \, dx$$