

# CALCULUS 12 LG 4

## UNIT 1 TEST



### EVALUATION:

This is the Unit 1 test which will be on the expectations from LG 1 and LG 2/3.

The test is out of 42.

There are 10 multiple choice questions and 13 written questions.

### TOPICS YOU SHOULD KNOW:

#### LG 1 (Chapter 1)

- Find the domain of a function given the equation.
- Determine the composition of a function
- Given an expression for  $f(x)$ , find  $f(-3)$  etc.
- Sketch the graph of a piecewise function.
- Find the equation of a line given some info about it (ex. A point and the slope, two points, a line that is perpendicular and a point)

#### LG 2/3 (Chapter 2)

- Given a graph, determine some limits.
- Find the limit of functions (polynomial, rational, piecewise, trig)
- Determine where vertical and/or horizontal asymptotes exist.
- Determine where places of discontinuity exist.
- Prove that a function is not continuous at a point. Prove that a function is continuous at a point.
- Continuity from the left/right.
- Removable/non-removable discontinuity.
- You should be familiar with the following trig identities.

- $\sin^2 x + \cos^2 x = 1$

- $\lim_{x \rightarrow 0} \frac{\sin x}{x} = 1$

- $\lim_{x \rightarrow 0} \frac{x}{\sin x} = 1$

- $\lim_{x \rightarrow 0} \frac{1 - \cos x}{x} = 0$

\*\*\*LG 4 CONTINUES ON THE NEXT PAGE.

**To prepare for the unit test, you could do one or all of the following:**

- Re-watch the instructional videos.
- Review your notes and journal entries.
- Re-do some questions from the learning guides on the above topics.
- Complete the supplementary exercises from Chapter 1 on pages 103-106 #2, 7, 10, 12.
- Complete the supplementary exercises from Chapter 2 on pages 165-167 #1, 2, 3, 6, 12, 19, 20, 21-28, 30a.
- Complete the practice quizzes for Chapters 1 and 2 (but only the questions that deal with the above topics as we skipped a few sections from Chapter 1 and 2). You can access the practices quizzes at [www.thssmath.com](http://www.thssmath.com) or click [here](#).