**Pre-Calculus Mathematics 12**

Level

Mark

Total

**Chapter 8 Test**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_**

 **Mr. Formaran**

**True or False** (10 marks)

\_\_\_\_\_\_\_\_ 1. The logarithmic of a number is an exponent

\_\_\_\_\_\_\_\_2. A common logarithm is a log with the base of 10.

\_\_\_\_\_\_\_\_3. logb 1 in exponential form is b0 = 1

\_\_\_\_\_\_\_\_4. log (0) is equal to 0

\_\_\_\_\_\_\_\_5. In logarithmic for logbx = y, x is the exponent.

\_\_\_\_\_\_\_\_6. log (0.01) is equal to the log of log 100

x

y

\_\_\_\_\_\_\_\_7. In product law, logb = logbx – logby, b > 0, b 1

\_\_\_\_\_\_\_\_8. In power law, logbxk = k logbx, b > 0, b 1, k

\_\_\_\_\_\_\_\_9. If $log\_{b}L= log\_{b}R, then L=R$

\_\_\_\_\_\_\_10. If L = R, then $log\_{b}L= log\_{b}R$

**Evaluate each logarithm** Set 1: \_\_\_/12 marks

1

9

1. log5(625) 2. log729( ) 3. log(-10)

4. logabc(abc) 5. log (0.00000001) 6. log (729)

1

9

**Evaluate each logarithm** Set 2: \_\_\_/12 marks

1. log2(8) + log2(4) 2. log3(162) – log3(2)

3. 2 log3(5) + log3(40) – 3 log3(10) 4. log5(10x – 5) = 2

5. log3(5x + 2) = log3 (7x – 4) 6. Log3(x – 2) = log27(4x + 7)

**Evaluate each logarithm** Set 3: \_\_\_/12 marks

1. log2x + log2(x – 2) = 3 2. log(12x – 7) = log(3x + 11)

3. log436 – log42x = 2log43 + log42 4. log3(x – 2) = log3(4x + 7)

**Word Problem** (5 marks)

How long does it take for an investment of $25 000 to be $100 000 if it is invested at 5% compounded monthly?

**Graph** (5 marks)

y = $log\_{5}x$ and identify the intercepts, the equations of any asymptotes, and the domain and range of the function.

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