MCR 3U9 **June 2016**

Central Peel Secondary School
Grade 11 AP Mathematics – Final Exam

Mr. N. Nolfi

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118

Number of Pages: 8

***Name*:** _____ Up to 10 marks can be deducted for communication errors.

Time: 2 hours

Page 1 (12 Marks)

1. Several graphs and equations are given below. Match each graph to the most suitable equation. **[12]**

Page 2 (15 Marks)

2. State whether each of the following is true or false. Provide an explanation to support each response. **[15]**

(a) If a statement is true, prove that it is or provide an explanation.
(b) If a series of statements leads to a conclusion that is true, justify each step.
(c) If a statement is false, provide a ***counterexample*** or an explanation. In either case, ***correct*** the statement.
(d) If a series of statements leads to a conclusion that is false, find the flaws and ***correct*** them.

Page 3 (16 Marks)

3. The following is a list of equations that we have encountered in this course. **[16]**

(a) Classify each equation as an ***identity (I)***, an ***equation to be solved (S)*** for the unknown, an ***equation of a function (F)*** or an ***equation of a relation (R)***.
(b) Give a geometric (graphical) representation of each equation.
(c) For the equations that are identities, prove that the expression on the L.S. is ***equivalent*** to that on the R.S.
(d) Solve the equations that are neither identities nor equations of functions/relations.

Page 4 (23 Marks)

4. Modelling Periodic Phenomena **[8]**

5. Transformations **[15]**

Page 5 (20 Marks)

6. Trigonometric Identities **[12]**

7. Solving Trigonometric Equations **[8]**

Page 6 (12 Marks)

8. Polynomial Functions **[12]**

Page 7 (10 Marks)

9. Rational Functions **[10]**

Page 8 (10 Marks)

10. Surprise! **[10]**

Use this space to make a plan for writing the exam.