Central Peel Secondary School
Grade 12 Computer and Information Science Final Exam

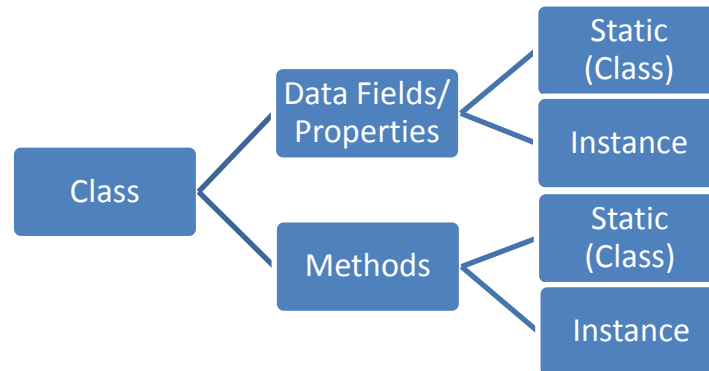**Mr. N. Nolfi**   **Number of Pages: 6**

KU	APP	TIPS	COM
/20	/20	/20	/15

Victim: _____   Time: 2 hours

Section One: Multiple Choice Questions dealing with Object-Oriented Programming

The following diagram shows the **basic** structure of a class in object-oriented programming. After studying the diagram, answer the multiple choice questions found below.

For questions **1** to **10**, select the **best** answer. Write the letter of your choice in the blank space. **(10 KU)**

Section Two: Written Responses

11. Given the following C# variable declarations, complete the following table: **(10 KU, 5 COM)**

```csharp
int a = 0, b = 0, c = 0;
long p = 0, q = 0;
double x = 0, y = 0, z = 0;
bool d = false;
string s = "good luck", t = "in university!";
```

12. Given the *values* of the *variables* shown below, describe the *problem solved* by each of the given C# *program snippets*. Note that variables have intentionally been given cryptic names. (In case you have forgotten how the "Substring" method works, a description of it is given at the bottom of this page.) **(10 APP, 5 TIPS, 5 COM)**

13. Recall that a *palindrome* is any string (including any word or number) that is unchanged when the sequence of characters in the string is reversed. Examples of palindromes include "bob," "dad," "1001," and "radar."

The following C# methods for working with strings will help you solve the problem described below: **(5 APP, 10 TIPS, 5 COM)**

14. In this question you will make modifications to the Mandelbrot set program to produce the picture shown at the right. **(5 APP, 5 TIPS)**

This picture is produced by colouring the exterior of the Mandelbrot set using a method known as "?????."