MATH 1115 - Fundamental Mathematics for the General Sciences I

ASSIGNMENT 1 (GROUP 1)

- To be submitted by **4 p.m**. on **Thursday, 22nd. September, 2016** in the Department of Mathematics and Statistics (**BOX labelled MATH 1115 G1**) . Late assignments will be deducted 50% of achieved mark. **Assignments submitted more than 24 hours late will be awarded a mark of zero.**
- On your script, please include in the following order: **Course code and Group number, Assignment number, Name, ID number and Instructor's name (Ms. Addison)**. For example, Math 1115 G1, Assignment #1, Jane Doe, 81009672, Ms. Addison.
- Please ensure that you submit your script in the appropriate box FOR YOUR GROUP labelled Math 1115 in the department.
- Attempt ALL questions, showing ALL working where applicable.

Questions 1-3 are based on the Number System. Given these set of numbers, answer with ONE appropriate choice.

I - Natural Number, II - Integer, III - Rational, IV- Irrational

1. What type of number is 25 747? Select the BEST choice.
   a) I, II, III, IV
   b) I, II, III
   c) I, II, IV
   d) I, III, IV

2. What type of number is $\sqrt{5}$? Select the BEST choice.
   (a) I, II
   (b) III, IV
   (c) II
   (d) IV

3. What type of number is -5.41? Select the BEST choice.
   (a) I, II, III
   (b) IV
   (c) II
   (d) III

4. State what type of number system the following number belongs to: $3+4i$. What does the i represent? State TWO applications of these types of numbers in the real world (Hint: You may research this on the internet).

5. i) How many significant figures does each number have? Round off each to ii) 2 significant figures and to iii) 3 decimal places.

   a) 15.932

   b) 100.057

   c) 0.000114

   d) 308.5998

   e) 9.5108

6. Express the following in scientific notation (also known as standard form).

   (a) 213.49

   (b) 0.045×10^{-3}

   (c) 0.36^2

   (d) 0.03249

7. The speed of the planet Mercury as it orbits the sun is 48 $km\,s^{-1}$. Convert this speed to the units ms^{-1}.

8. Use scientific notation to express the following:

   a) 10.1 million m in μm

   b) 100.051 nm in m

   c) $30 \times 10^{-6}\,km^2$ in m^2

END OF ASSIGNMENT