

MATH141(0332) Calculus II

Quiz 11, Tuesday, November 25, 2008

Name: _____

Show all work clearly and in order, and circle your final answers. Justify your answers algebraically whenever possible. Calculator is not allowed in this quiz. You have 15 minutes to take this 10 point quiz.

1. (2 points) Write the following complex number in $a + bi$ form.

$$\frac{5 + 7i}{4 - 3i}$$

2. (3 points) Compute $|e^{2i}(5 - 12i)|$.

Hint: As $|e^{2i}(5 - 12i)| = |e^{2i}| \cdot |5 - 12i|$, you only need to calculate $|e^{2i}|$ and $|5 - 12i|$.

3. (5 points) $z = \sqrt{3} + i$.

(1) Find the polar form of z .

(2) Use the polar form to compute z^{10} , and change the answer back to $a + bi$ form.