College Mathematics, Exam 1 Practice, VA, Summer 2013 NAME:_____
Camp Lemonnier, Djibouti
Answer the following questions in the space provided. If you need more room, write "BACK,"
and use the back of the sheet. For full credit, show all of your work, demonstrating an
understanding of material covered in our course. Reduce all fractions. Simplify all radicals.
Express any improper fractions as mixed numbers. You have 50 minutes. Good luck!

1. (7 points)   First, express the numbers in scientific notation. Second, perform the indicated
    operation. Third, express the answer in scientific notation.

    $4,200,000 \times 750,000$

2. (7 points) Perform the indicated operation and express the answer in scientific notation.

    $(1.616 \times 10^5) \div (5.05 \times 10^{-3})$

3. (4 points each)

    a. Give an example of a rational number which is not positive.

    b. Give an example of a real number which is irrational.

    c. Give an example of a rational number that is not an integer.

    d. Give an example of a rational number that is not a natural number.

4.   (5 points each) Perform the indicated operation or indicate that the operation is undefined in the real number system. Reduce or simplify answers whenever possible. Express any improper fractions as mixed numbers.

a. $\dfrac{3}{7} + \dfrac{2}{3}$

b. $\dfrac{\dfrac{1}{8}}{9} - \dfrac{2}{9}$

c. $\dfrac{73}{0}$

d. $\sqrt{-16}$

e. $-3 + 2 \times 11 - 6$

f. $3\sqrt{48} + \sqrt{27} - 2\sqrt{75}$

5.   (5 points each) Use the properties of exponents to simplify each expression, and then evaluate each expression.

    a. 11^0

    b. -5^2

    c. $3^4 \times 3^5$

    d. 7^{-2}

6.   (4 points each) Name the property of real numbers which the equation demonstrates.

    a. $3(2 + 5) = 3 \times 2 + 3 \times 5$

    b. $(3 + 5) + 7 = 3 + (5 + 7)$

    c. $0 + 3 = 3$

7.   (4 points) Express the fraction in decimal form. Remember to show your work. $\dfrac{7}{20}$

8.   (4 points) Express the decimal as a fraction. 0.47