NAME:

Perform the following operations. Write the final result in a + bi form.

1. Add. (4-6i) + (8+2i)

2. Subtract. (4-6i) - (8+2i)

3. Multiply. (4 – 6*i*)(8 + 2*i*)

4. Divide. Be sure to reduce it to lowest terms. $\frac{4-i}{5+3i}$ 5a. Reproduce the table of the powers of i from the notes. Then use it to answer the following questions.

$$i^{1} = i$$
 $i^{5} =$ $i^{9} =$ $i^{13} =$
 $i^{2} = -1$ $i^{6} =$ $i^{10} =$ $i^{14} =$
 $i^{3} =$ $i^{7} =$ $i^{11} =$ $i^{15} =$
 $i^{4} =$ $i^{8} =$ $i^{12} =$ $i^{16} =$

5b. Find i^{90} .

5c. How did you use the table to find the value of i^{90} ?

5d. Find 7*i*⁴⁸.