

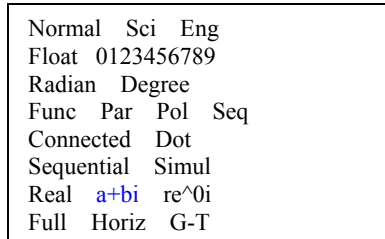
Name: _____ Instructor: _____

Math 099-Imaginary Number Worksheet

The TI-83 can complete computations involving imaginary numbers.

To set your calculator to compute imaginary numbers:

1. Press the MODE button.
2. Scroll down using the cursor to highlight a+bi and press enter.



To find the square root of -49:

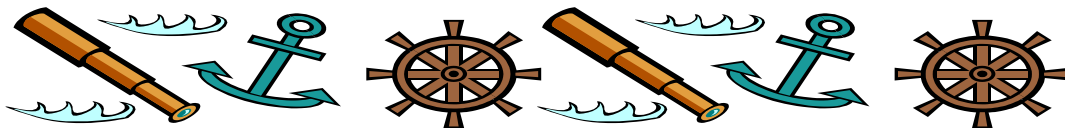
2^{nd} [$\sqrt{\quad}$] (The square root sign is a second function of x^2)

(-) 49 ENTER

Your display should show $7i$ \longrightarrow $\sqrt{(-49)}$
 $7i$

Find the following:

1. $\sqrt{-9} =$ _____
2. $\sqrt{-64} =$ _____
3. $\sqrt{169} =$ _____
4. $\sqrt{121} =$ _____
5. $\sqrt{-16} =$ _____



With the MODE set to a+bi, non-real complex numbers can be entered into the calculator using 2^{nd} [i] (i is the second function of \bullet).

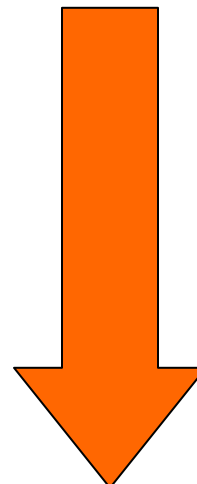
To enter $(3 + 2i)(4 - 5i)$

(3 + 2 2^{nd} [i]) (4 - 5 2^{nd} [i]) ENTER

Your display should show $22 - 7i$

Find the following:

6. $(7 - 8i) + (-12 - 4i) =$ _____
7. $(12 - 3i) - (5 + 3i) =$ _____
8. $(4 - 6i)(2 + 7i) =$ _____
9. $(20 + 5i) - (6 - 3i) =$ _____
10. $(2 + 3i)(2 - i) =$ _____



ANSWERS

1. $3i$
2. $8i$
3. 13
4. 11
5. $4i$
6. $-5 - 12i$
7. $7 - 6i$
8. $50 + 16i$
9. $14 + 8i$
10. $7 + 4i$