

NOTES: SECONDARY 2 HONORS  
**GRAPHING COMPLEX AND DIVIDING COMPLEX NUMBERS (5.2BH/5.2CH)**

VOCABULARY:

- **Modulus:**

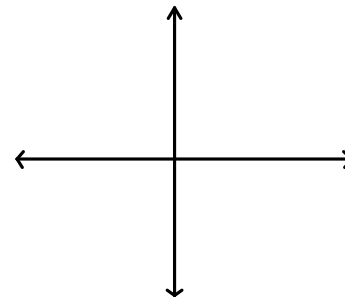
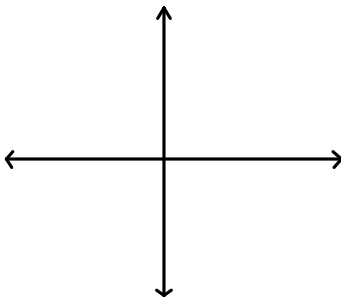
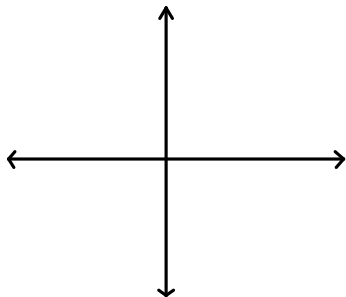
- The modulus of the complex number  $a + bi$  is symbolized as \_\_\_\_\_

Example: Graph the following complex numbers on the complex plane and then find the modulus.

1.  $4 + 2i$

2.  $2 - i$

3.  $-3 + 4i$



From the example above, we see that  $|a + bi| =$  \_\_\_\_\_

Example: Find the modulus of the following examples.

1.  $|3 - 2i|$

2.  $|-6 + 4i|$

3.  $|-5i|$

### **DIVIDING COMPLEX NUMBERS**

We cannot have an imaginary number in the denominator. So we need to multiply the denominator by the \_\_\_\_\_ to get a real number. But remember, whatever you multiply the bottom by, you need to multiply the top as well.

Example: Divide each complex rational expression and write the answer in standard form.

1.  $\frac{2}{8i}$

2.  $\frac{6 + 8i}{9i}$

3.  $\frac{10}{2 + i}$

4.  $\frac{22 - 7i}{4 - 5i}$

5.  $\frac{6 + 2i}{1 - 2i}$