

### Bell work

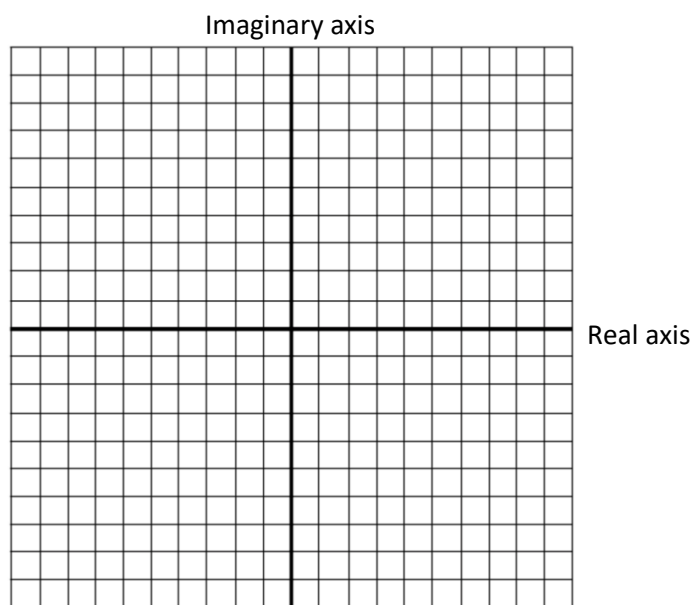
Simplify:

$$\sqrt{-96}$$

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

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### Graphing Complex Numbers



Complex numbers are in the form of:  
 $a + bi$

Graph:  $-3 + 2i$

$5$

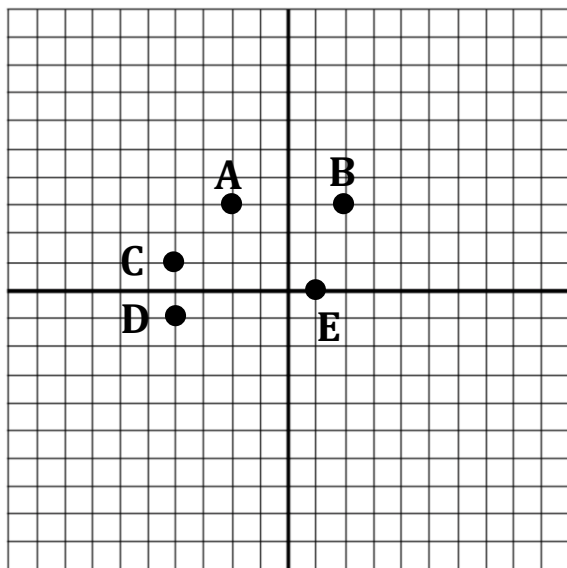
$-6i$

$4 - 2i$

Notation when working with complex numbers:

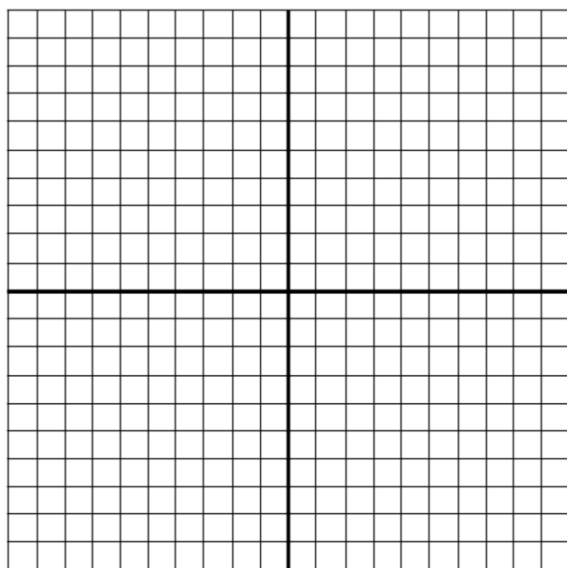
$z = a + bi$       complex number

$\bar{z} = a - bi$       conjugate of a complex number



1. Identify the complex number represented by each point.

2. Which two points on the complex plane above are conjugates of each other?



3. If  $z$  is a complex number, compare the locations of  $z$  and  $-z$  on the complex plane.

Given:  $z = 3 + 2i$  &  $w = -1 - 4i$

Find:

1.  $z + w$

2.  $z - 3w$

3.  $\bar{z} + w$

4.  $2z - 3\bar{w}$

5.  $\bar{z} - \bar{w}$

6.  $\overline{z - w}$