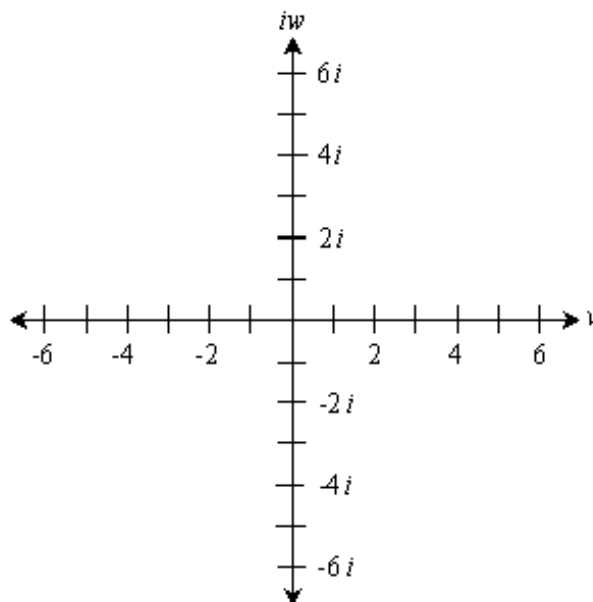


ORIGINAL ACTIVITY PLAN – COMPLEX NUMBER MULTIPLICATION

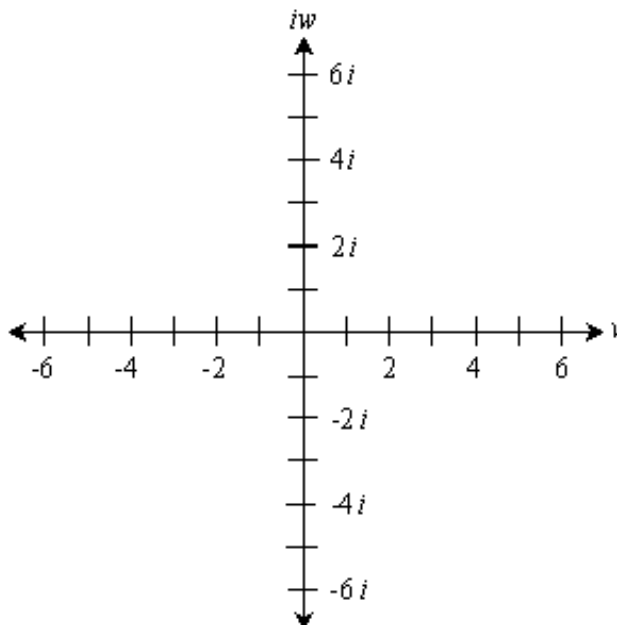
Goal: Explore complex multiplication and express geometrically

- 1) Graph complex number $z=1+2i$.
- 2) Multiply the complex number $z = 1+2i$ by the real number 2 and graph it. Multiply z by 3 and graph it.
- 3) How did multiplying by 2 and 3 affect the point z ?
- 4) Give a general rule for kz where k is a real number.



Now that we know how a constant affects z , let's see what happens when we multiply by the imaginary number i instead of k

- 5) Graph the complex number $z = (2+4i)$
- 6) Multiply the complex number $z = (2 + 4i)$ by imaginary number i and graph it.
- 7) What happened to z when you multiplied it by an imaginary number?
- 8) Formulate a general rule for what happens when multiplying a complex number by an imaginary number.



- 9) What do you think will happen if you multiply the result from #6 by i (i.e., zi^2)? Try it and see if you were right.