

Multiplication by i

Quiz: Multiplication by i .

Multiplication by i has what effect on a complex number in the complex plane?

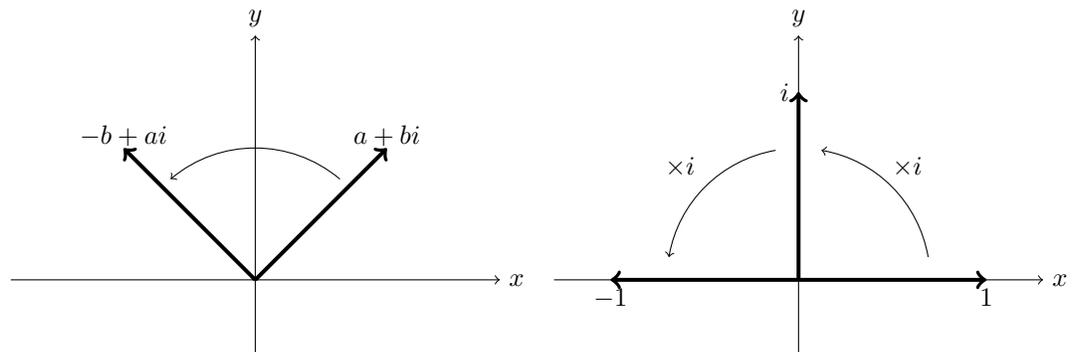
Choices:

- a) It rotates the number around the origin by 90 degrees counterclockwise.
- b) It rotates the number around the origin by 90 degrees clockwise.
- c) It takes a number to the number pointing in the opposite direction with the same distance from the origin.
- d) It reflects the number across the imaginary axis.
- e) It reflects the number across the real axis.
- f) None of the above.
- g) I don't know.

Answer:

Answer: (a).

We compute: $i(a + bi) = -b + ai$, which is rotated by 90 degrees counterclockwise.



For example, $i \cdot 1 = i$ and $i \cdot i = -1$.

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