

Answer on Question #44455 – Math - Abstract Algebra

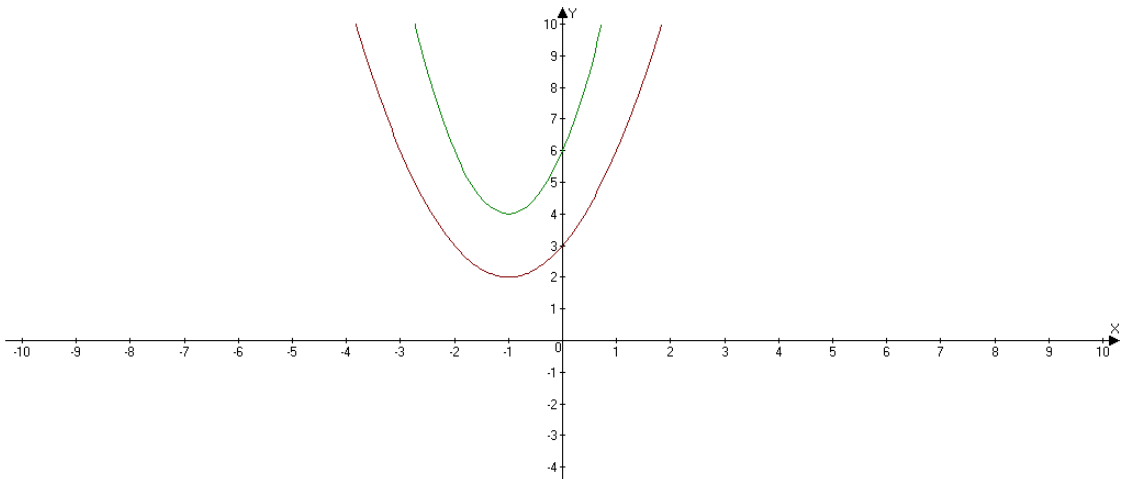
c) Check whether the following pairs of elements are associates:

- i) $5+4i$ and $5-4i$.
- ii) $5+4i$ and $-4+5i$.
- iii) $2x^2+4x+6$ and x^2+2x+3 .

Solution

We will use symmetry property for show association:

- i. $5+4i$ and $5-4i$.
This pair of elements is obvious associate, because elements are symmetric for x axis (real axis),
- ii. $5+4i$ and $-4+5i$
There is no symmetry between these elements, so they are not associates.
- iii. $2x^2 + 4x + 6$ and $x^2 + 2x + 3$
We will draw the picture for representation of ours elements:



We can see that the first element is the scaling of second by 2. They are linear dependent, so they can't be associates.