

Review of: "From Complex to Real Numbers: A Reverse Detour for Solving Polynomial Equations Using Complex Numbers"

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Potential competing interests: No potential competing interests to declare.

My first comment concerns the motivation of the entire paper. There are well-known and easy methods for solving quadratic, cubic, and quartic equations, making use of complex numbers and obviously giving real solutions when these exist, so it is not clear what the novelty of the results is.

Moreover, the use of De Moivre's formula has not any specific relation to the equations; it is simply the trigonometric representation of complex numbers.

Going to more specific points, in section 2.1.1, when using De Moivre's formula, it must be clearly stated that while the numbers C and D of the first part can be real or complex, now c and d are real.

In 2.1.2, Method B, the first formula a^2+b^2 is numbered (7) and later it is quoted as equation (1); however, I cannot find the equations/relations numbered from (1) to (6). In this part, the use of symbols is rather confusing. After the general rule of decomposition of the sum of squares using a and b , a b appears in the equation which has nothing to do with the previous one.

In all this part, the letters represent obviously real numbers, and this must be clearly stated at the beginning.

Part of these comments can be extended to sections on cubic and quartic equations, so I finish here, recommending a careful revision of the entire paper.