Complete the following questions utilizing the concepts introduced in this unit. The assignment will be graded by your instructor.

1. Evaluate the cube root of [ z=27cis(240^ \circ)  ](https://my.uopeople.edu/filter/tex/displaytex.php?texexp=%20z%3D27cis%28240%5E%20%5Ccirc%29%20%20). Then raise them to the cube. Show the steps of your reasoning.

2. Evaluate [  [ \sqrt[5]{3} ( \frac{ \sqrt{3}}{2}+ \frac{i}{2} ) ]^{10}  ](https://my.uopeople.edu/filter/tex/displaytex.php?texexp=%20%20%5B%20%5Csqrt%5B5%5D%7B3%7D%20%28%20%5Cfrac%7B%20%5Csqrt%7B3%7D%7D%7B2%7D%2B%20%5Cfrac%7Bi%7D%7B2%7D%20%29%20%5D%5E%7B10%7D%20%20).

3. Find  [  \frac{z_1}{z_2}  ](https://my.uopeople.edu/filter/tex/displaytex.php?texexp=%20%20%5Cfrac%7Bz_1%7D%7Bz_2%7D%20%20)  in polar form:

[ z_1=21cis(135^ \circ)  ](https://my.uopeople.edu/filter/tex/displaytex.php?texexp=%20z_1%3D21cis%28135%5E%20%5Ccirc%29%20%20)          [ z_2=3cis(75^ \circ) ](https://my.uopeople.edu/filter/tex/displaytex.php?texexp=%20z_2%3D3cis%2875%5E%20%5Ccirc%29%20)

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