

Quiz 2

Show *all* your work. Reasonable supporting work must be shown for any partial credit. There are *two* sides to this quiz.

1. [2] (WebHW6 #8) The total impedance of resistors that are placed in series (one after the other) can be computed by adding the the individual impedance of each resistor in the circuit together. Given there are two resistors Z_1 and Z_2 with resistance $2 + 3i$ and $8 - i$ respectively, find the total impedance of the circuit.

2. (PolynomialRootActivity #5) The volume V and base area B of a cubical prism can be computed as functions of x . Specifically, $V = x^4 + 3x^3 + x + 3$ and $B = x^2 + 4x + 3$.
 - (a) [1] If $x = 2$, find the volume of cubical prism.

 - (b) [3] Find the height as a function of x .

3. [4] (§2.2 #112) Provide a graph AND an algebraic rule/expression for

- a 3rd degree polynomial
- whose *only* roots are -2 & 3 ,
- as $x \rightarrow \infty$, $y \rightarrow \infty$.

