IB Pre HL 6A, 6B Complex Numbers

Imaginary Numbers

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Complex Numbers

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| If , then    Conjugate of  is | Example:    Example) Find the conjugate of |

Perform the operations and simplify in the form of .

1.  2. 

3. 

Write as a product of linear factors

4.  5. 

**Pre HL: Ch6 B**

**Warm up:** Perform the operations and simplify in the form of  where.

**a)**  b) 

**Equality of Complex Numbers:**

Example) Find x and y where 

a)  b) 

Theorem:

If  is a root for a quadratic equation, then the conjugate, , is also the root of the quadratic.

Suppose  and are the roots for a quadratic,

1) Find the sum of the roots and the product of the roots.

2) Formulate the quadratic Equation.

Example1) Find a real quadratic equation having  is a root.

Example 2) Find exact values for a and b if  is a root of .

Example 3) Find  where  for 