

Addition, Subtraction of Complex Numbers - Step-by-Step Lesson

a. Add the following:

$$(3 + 21i) + (19 + 7i)$$

b. Subtract the following:

$$(4 + 6i) - (2 + 3i)$$



Explanation:

These types of problems are not that challenging. When you are adding complex numbers, you just combine like terms. When subtracting, just do the reverse and subtract like terms.

a. The addition rule for complex numbers states:

$$(m + ni) + (p + qi) = (m + p) + (n + q)i$$

m and p are real numbers. ni and qi are the imaginary numbers.

Step 1) $(3 + 21i) + (19 + 7i)$ Combine Like Terms

Step 2) $(3 + 19) + (21 + 7)i$ Perform Calculations

$$22 + 28i$$

b. The subtraction rule for complex numbers states:

$$(m + ni) - (p + qi) = (m-p) + (n-q)i$$

m and p are real numbers. ni and qi are the imaginary numbers.

Step 1) $(4 + 6i) - (2 + 3i)$ Combine Like Terms

Step 2) $(4 - 2) + (6 - 3)i$ Perform Calculations

$$2 + 3i$$

