PROBLEMS AND SOLUTIONS - OPERATIONS ON IMAGINARY NUMBERS

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Problem 1:

Simplify $\sqrt{-81}$, if possible, and write in terms of i.

Problem 2:

Write $\sqrt{-3}$ in terms of i.

Problem 3:

Simplify $\sqrt{-64}$, if possible, and write in terms of i.

Problem 4:

Add $(3 + 6i) + (9 - 2i)$.

Problem 5:

Subtract $(2 + 7i) - (8 - i)$.

Problem 6:

Multiply $7(3i)$.

Problem 7:

Multiply $7i(3i)$.

Problem 8:

Multiply $(2 + 7i)(8 - 3i)$.

Problem 9:

Factor the *Sum of Squares* $x^2 + 4$.

Problem 10:

Rationalize the denominator of $\frac{4+i}{3-i}$ and write in standard form ***a + bi***.

Problem 11:

Rationalize the denominator of $\frac{6-i}{4+i}$ and write in standard form ***a + bi***.

Problem 12:

Rationalize the denominator of $\frac{-6-2i}{-4+2i}$ and write in standard form ***a + bi***.

SOLUTIONS

You can find detailed solutions below the link for this problem set!

1. 9i	2. $i\sqrt{3}$	3. 8i
4. 12 + 4i	5. - 6 + 8i	6. 21i
7. -21	8. 37 + 50i	9. (x - 2i)(x + 2i)
10. $\frac{11}{10}+\frac{7}{10}i$	11. $\frac{23}{17}-\frac{10}{17}i$	12. 1 + i