**Core Pure 1**

**Complex Numbers**

Chapter Overview

**1**: Understand and manipulate ($×, ÷$) complex numbers.

**2**: Find complex solutions to quadratic equations.

3: Find complex solutions to cubic and quartic equations.





Complex Number Basics

Examples: Write the following in terms of $i$

$√(-36)=$ $\sqrt{-1}=$

$\sqrt{-4}=$ $\sqrt{-7}=$

Simplify:

$\left(2+3i\right)+\left(4+i\right)=$

$i-3\left(2-i\right)=$

$\frac{10+4i}{2}$ =

Solving Quadratic Equations

Examples

1. Solve $z^{2}+25=0$
2. Solve $z^{2}+3z+5=0$

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