



The image shows the cover of a red book. The title 'Teaching & Learning Plans' is written in a large, white, sans-serif font. Below it, 'Complex Number Operations' is written in a slightly smaller white font. Underneath that, 'Leaving Certificate Syllabus' is written in a smaller white font. At the bottom center, there is a white rectangular logo with a red swoosh. The logo contains the text 'Project Maths' in red and black, with 'Tionscdeal Mairé' in a smaller font below it, and 'Development Team' at the very bottom. The background of the cover features faint, white, curved lines that resemble mathematical curves or orbits.

Teaching & Learning Plans

Complex Number Operations

Leaving Certificate Syllabus



Complex Numbers Teaching & Learning Plan



Section A, Student Activity 6

What do I know and what do I need to learn? Put a tic in the box against the statement that describes what you CAN do.

	Yes	Uncertain	No
Knowledge			
I know the number systems N,Z,Q,R and can perform the operations of +, -, \times , \div			
I can square numbers			
I can find the square root of numbers			
I know the rules of indices			
I know the rules governing surds (irrational numbers)			
I can add and subtract like terms			
I can multiply and simplify algebraic expressions with two terms			
I can measure with a ruler			
I can use a protractor			
I understand what happens when a positive whole number is multiplied by (i) a number > 1 and (ii) a number between 0 and 1			
I know how to solve linear equations			
I know how to solve quadratic equations			
I know the two components of a Complex Number			
Number			
I know what i means			
I understand if i is raised to any power the result will be an element of the set $\{-1, 1, i, -i\}$			
I know what letters are used to denote Complex Numbers			
I know how to visually represent Complex Numbers			
I know what a translation is			
I know the definition of an angle (Rotation)			
I know what an axial symmetry is			
I know the modulus of a Complex Number			
I can calculate the modulus of a Complex Number			

Knowledge Checklist

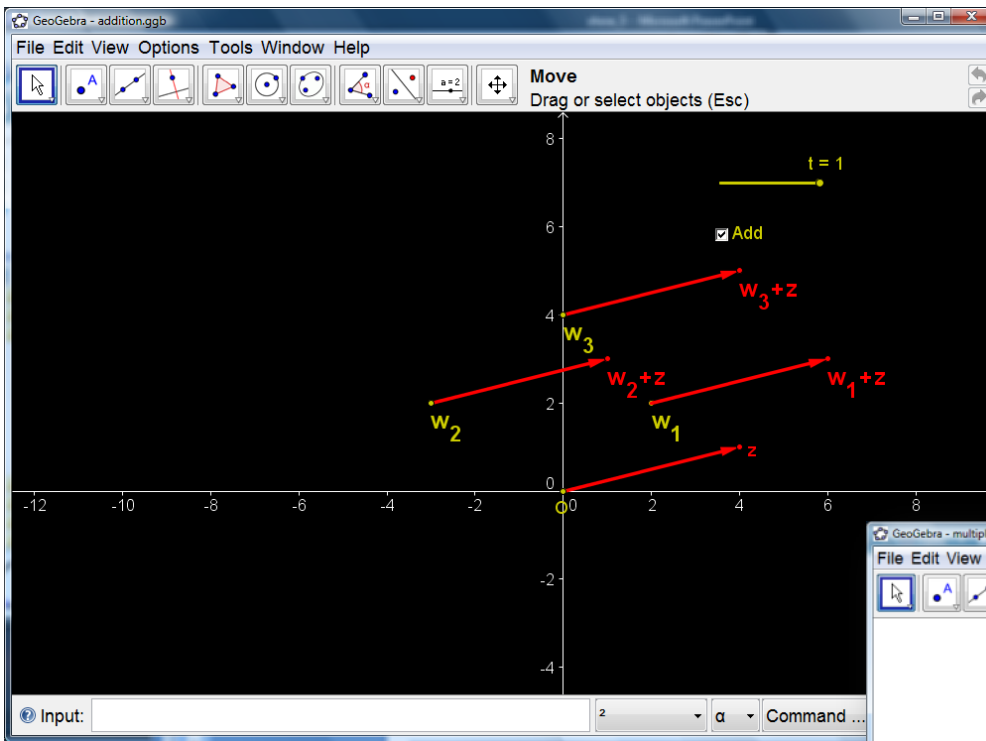
Complex Number Operations

The Addition of Complex Numbers	The Subtraction of Complex Numbers	The Multiplication of Complex Numbers	The Division of Complex Numbers
<p>Add the real parts ^{add} and the imaginary parts.</p>	<p><u>Re</u> - <u>Re</u> and <u>Im</u> - <u>Im</u> * BRACKETS * </p>	$(a+ib)(c+id)$ $= (ac-bd) + i(ad+bc)$	
<p>Example 1: $(\overset{\text{Re}}{12} + \overset{\text{Im}}{4i}) + (\overset{\text{Re}}{7} + \overset{\text{Im}}{2i})$ $\Rightarrow 19 + 6i$</p>	<p>Example 1: $2 + 4i - (1 + 2i)$ <u>1 + 2i</u></p>	<p>Example 1: $z_1 = 7 - 6i$ $z_2 = 5 - 2i$ $z_1 \cdot z_2 = (7 - 6i)(5 - 2i)$ $= 23 - 44i$</p>	<p>Example 1:</p>
<p>Example 2: $(\overset{\text{Re}}{7} - \overset{\text{Im}}{2i}) + (\overset{\text{Re}}{9} - \overset{\text{Im}}{4i})$ $\Rightarrow 16 - 6i$</p>	<p>Example 2: $3 - 8i - (2 - 4i)$ 1 - 4i oops! <u>1 - 4i</u>  BRACKETS</p>	<p>Example 2: $w = 4 + 3i$ $w^2 = (4 + 3i)^2$ $= (4 + 3i)(4 + 3i)$ $= 7 + 24i$</p>	<p>Example 2:</p>

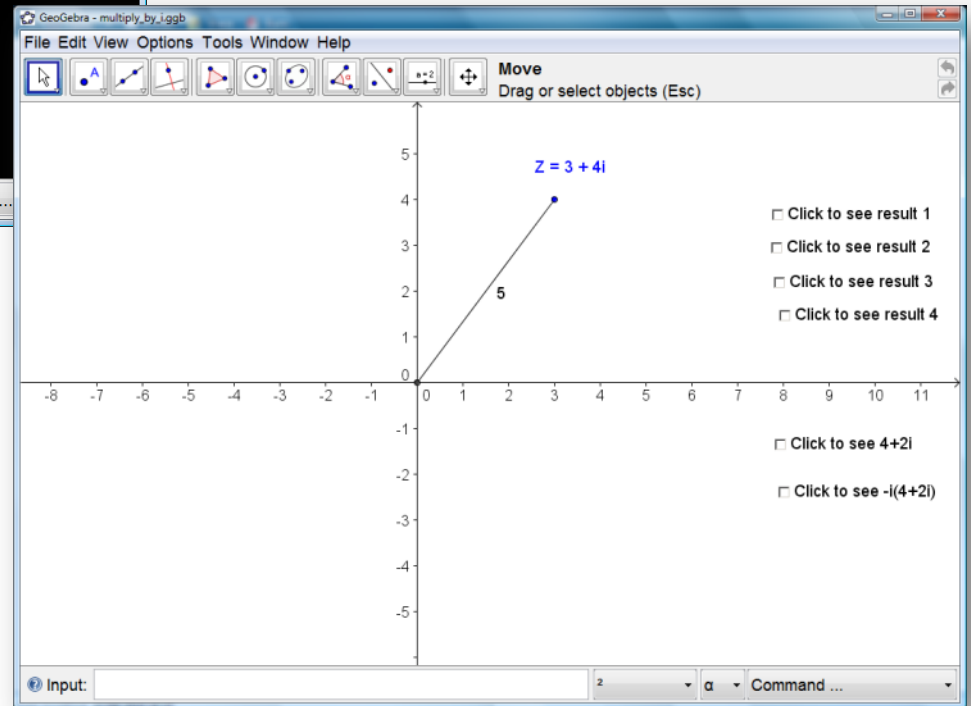
ANTZ VIDEO: LOOK FOR USE OF COMPLEX NUMBERS



- Groups of 2 – 2 Activities
- 1 Student – 1 Activity
- Leave group – practice pair
- Return share



addition.ggb



multiply_by_i.ggb

Geogebra Files

ANTZ VIDEO: LOOK FOR USE OF COMPLEX NUMBERS



COMPLEX NUMBERS VIDEO MONTAGE



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