

Chapter 3 / **Example 19****Powers of a complex number**

Given the complex number $z = 2 + i$, find each of these expressions. Check your answer with a calculator.

a z^3 **b** $(z^*)^5$ **c** $(z^5)^*$

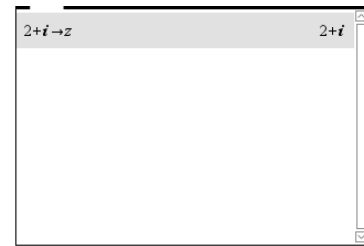
Open a new document and add a Calculator page.

To store a value press **ctrl** **var** (**sto→**).

Type $2 + i$ and store it as z

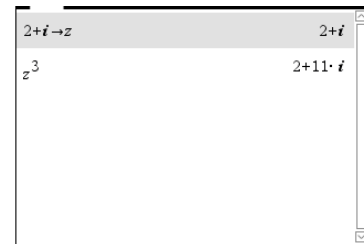
To enter i press **π** and select **i** from the menu.

Press **enter**.



To calculate z^3 type z^3 and press **enter**.

$$z^3 = 2 - 11i$$

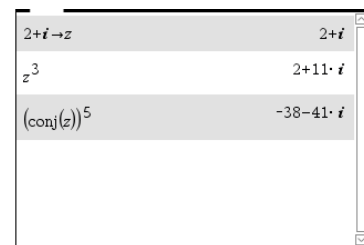


To calculate $(z^*)^5$ type **(** and press **menu** 2:Number | 9:Complex Number Tools | 1:Complex Conjugate

Type Z and press **►►**.

Type 5 and press **enter**.

$$(z^*)^5 = -38 - 41i$$



To calculate $(z^5)^*$ press **menu** 2:Number | 9:Complex Number Tools | 1:Complex Conjugate

Type Z^5 and press **enter**.

$$(z^5)^* = -38 - 41i$$

