

Chapter 8 / **Example 5a****Calculating with complex numbers**

Let $z_1 = 2 + 3i$ and $z_2 = 3 - i$.

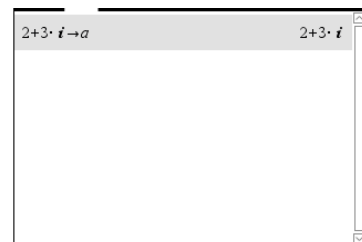
a Calculate each of the following, writing your answers in the form $a + bi$.

i $2z_1 + 3z_2$ **ii** $z_1 z_2$ **iii** $\frac{z_1 + z_2}{z_1 - z_2}$

Open a new document and add a Calculator page.

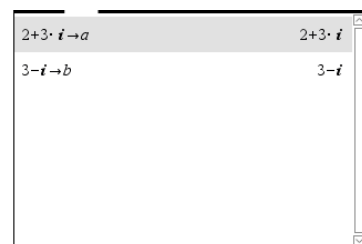
Type $2 + 3i$ and press **[ctrl]** **[var]** **[sto→]** **A** and press **[enter]**.

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



Type $3 - i$ and press **[ctrl]** **[var]** **[sto→]** **B** and press **[enter]**.

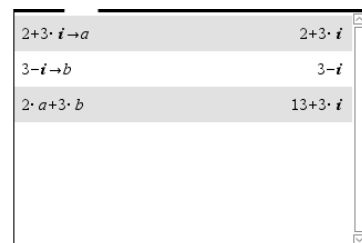
To enter i press **[π]** and select **i** from the menu.



$z_1 = A$ and $z_2 = B$.

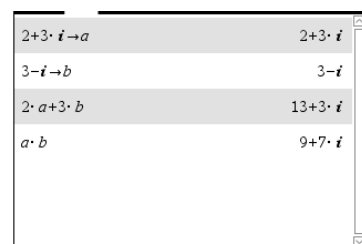
To calculate $2z_1 + 3z_2$ type $2A + 3B$ and press **[enter]**.

$$2z_1 + 3z_2 = 13 + 3i.$$



To calculate $z_1 z_2$ type $A \times B$ and press **[enter]**.

$$z_1 z_2 = 9 + 7i.$$



To calculate $\frac{z_1 + z_2}{z_1 - z_2}$ type $\frac{A+B}{A-B}$ and press **[enter]**.

Use the fraction template **[ctrl]** **[÷]** **($\frac{\square}{\square}$)**.

$$\frac{z_1 + z_2}{z_1 - z_2} = \frac{3}{17} - \frac{22}{17}i.$$

