

# Centum Preparation 100 Days plan class 12 Maths

Q. No.	DAY - 10
50	<p><b>Example 2.13</b></p> <p>If <math> z  = 2</math> show that <math>3 \leq  z + 3 + 4i  \leq 7</math></p>
51	<p><b>Example 2.14</b></p> <p>Show that the points <math>1, \frac{-1}{2} + i\frac{\sqrt{3}}{2}</math>, and <math>\frac{-1}{2} - i\frac{\sqrt{3}}{2}</math> are the vertices of an equilateral triangle.</p>
52	<p><b>Example 2.15</b></p> <p>Let <math>z_1, z_2</math>, and <math>z_3</math> be complex numbers such that</p> $ z_1  =  z_2  =  z_3  = r > 0 \quad \text{and} \quad z_1 + z_2 + z_3 \neq 0$ <p>Prove that <math>\left  \frac{z_1 z_2 + z_2 z_3 + z_3 z_1}{z_1 + z_2 + z_3} \right  = r</math>.</p>
53	<p><b>Example 2.16</b></p> <p>Show that the equation <math>z^2 = \bar{z}</math> has four solutions.</p>
54	<p><b>Example 2.17</b></p> <p>Find the square root of <math>6 - 8i</math>.</p>

## EXERCISE 2.5

2. For any two complex numbers  $z_1$  and  $z_2$ , such that  $|z_1| = |z_2| = 1$  and  $z_1 z_2 \neq -1$ , then show that  $\frac{z_1 + z_2}{1 + z_1 z_2}$  is a real number.