

1) $3+6z+z^2 = 0;$

2) $D^2= 36-4*3= 24> 0;$

3) The equation has 2 real solutions.

4) $Z_1=\frac{-6+2\sqrt{6}}{2} = -3 + \sqrt{6};$

5) $Z_2=\frac{-6-2\sqrt{6}}{2} = -3 - \sqrt{6};$