Answer on Question #78432 – Math – Complex Analysis

Question

Express
z=1/(-5-i) in standard (algebraic) form. Further, give an Argand diagram
in which z, z bar and −z are plotted.

Solution

$$z = \frac{1}{-5-i} = -\frac{1}{5+i} = -\frac{5-i}{(5+i)(5-i)} = -\frac{5-i}{25+1} = -\frac{5}{26} + \frac{1}{26}i.$$

$$-z = \frac{5}{26} - \frac{1}{26}i,$$

$$\bar{z} = -\frac{5}{26} - \frac{1}{26}i.$$