



JAYAM TUITION CENTRE.

VETTAVALAM. TIRUVANNAMALAI-DT.

STD: 12
SUB: MATHS
MARKS: 25

EXERCISE TEST -4 (EX:2-6)

2 Mark Questions

5 X 2 = 10

1. Show that the following equations represent a circle, and find its centre and radius. $|3z - 6 + 12i| = 8$
2. Obtain the Cartesian equation for the locus of $z = x + iy$ in each of the following cases: $|z - 4| = 16$
3. Show that $|z + 2 - i| < 2$ represents interior points of a circle. Find the centre and radius.
4. Show that $|3z - 5 + i| = 4$, represents a circle, and find its centre and radius.
5. Given the complex number $z = 3 + 2i$, represent the complex numbers z , iz , and $z + iz$ on one Argand diagram. Show that these complex numbers form the vertices of an isosceles right triangle.

5 Mark Questions

3 X 5 = 15

6. If $z = x + iy$ is a complex number such that $\left| \frac{z-4i}{z+4i} \right| = 1$, show that the locus of z is real axis.
7. If $z = x + iy$ is a complex number such that $Im \left(\frac{2z+1}{iz+1} \right) = 0$, show that $2x^2 + 2y^2 + x - 2y = 0$.
8. Obtain the Cartesian equation for the locus of $z = x + iy$ in each of the following cases: $|z - 4|^2 - |z - 1|^2 = 16$