

For $p(x)$ to be a 2nd degree polynomial in x , then coefficient of x^2 should be different than zero.

hence $2m-1 \neq 0$

Thus, for $m \neq \frac{1}{2}$ $p(x)$ is a 2nd degree poly. True

6) $E = (5 - \sqrt{2})^2 + 2(1 + 5\sqrt{2})$
 $= 25 - 10\sqrt{2} + 2 + 2 + 10\sqrt{2}$

$= 29$ which is a natural no. False

7) M is a pt on (c) of diameter [AB] (given).

so $\angle AMB = 90^\circ$ (inscribed angle facing diameter).

now, O is center of (c) of diameter [AB] (given)

then, O is mid pt of [AB]

And, I is mid pt of [AM] (given)

then, $(OI) \parallel (BM)$ (by mid pt theorem in any Δ)

but, $\angle AMB = 90^\circ$ (proved)

then, $\angle AIO = 90^\circ$ (A st. line perp. to one of two parallel st. lines is perp. to the other)

which means, the angle between variable pt I and the two fixed pts A & O is remains right

Thus, as M varies on (c), I describes the circle of fixed diameter [OA] & center the mid pt of [AO] deprived of the points

A and O.

False

