**Are the following statements falsifiable or not?**

1. The total mass of a system before a chemical reaction is equal to the total mass after the reaction.
2. Extra-terrestrial life exists.
3. In the long run demand, supply and the price mechanism will produce a market equilibrium.
4. The sum of the angles of a triangle is 180 degrees.
5. In the struggle for survival, those organisms will survive that are best adapted to their environments.
6. There is something that can travel faster than the speed of light.
7. There is a particular type of particle, and it always travels faster than the speed of light.

**Explain the Quine-Duhem thesis in your own words (100-300 words)**