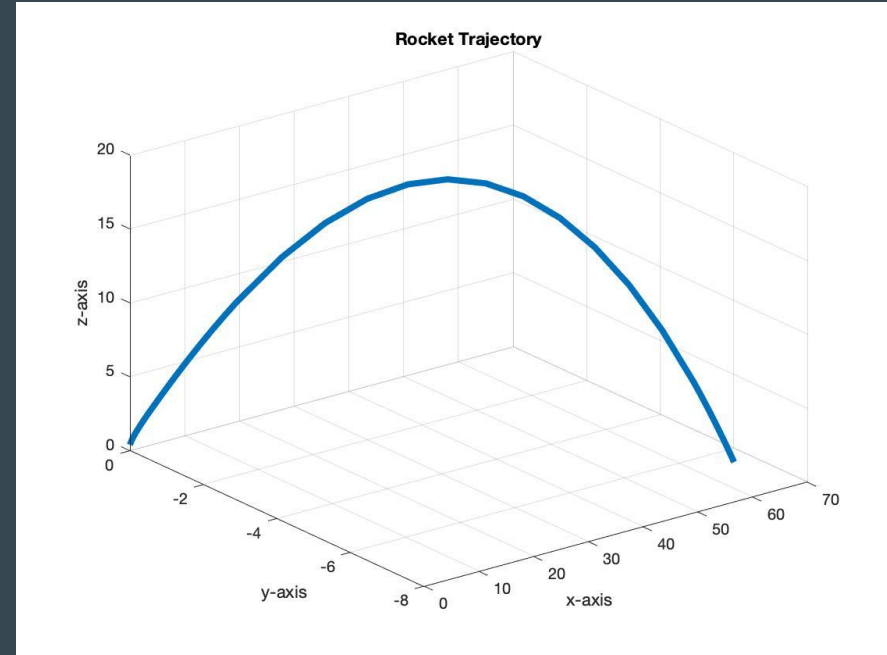


Three Phases of Rocket Flight

- Water Expulsion
 - Initially $t=0$, $v=0$, $(x,y,z) = (0,0,0)$
 - Compressed air expels water from rocket
- Depressurization
 - Pressurized air brought to ambient pressure
- Ballistic
 - Force of thrust $F_{\text{Thrust}} = 0$
 - Only impacted by gravity and drag forces



Forces Acting during Flight

- Drag
 - Due to dynamic pressure of air on rocket nose
 - Points opposite to rocket's motion
- Gravity
 - Gravitational force on rocket mass
- Thrust
 - Due to expulsion of water and air
 - Points in direction of rocket motion

