

This is Rocket Science!-Answers

Mission 1-Lift Off: In a short amount of time, astronauts go from walking on the Earth to orbiting it. How much time is there from when they depart for the launch pad until they reach their higher orbit?

3 hrs to lift off + 45 minutes to reach orbit = 3 hrs 45 minutes

Here are things you can do in the same amount of time....

- Watch both “High School Musicals” with bonus content
- Play in a “Halo” tournament
- Baby sit brother/sister/neighbor
- Sit through roughly 5 periods at school
- Watch a Cleveland Browns game

Mission 2-Orbit: How long are the main engines burning from the time they ignite until they are shut down?

6.6 seconds to lift off + 8.5 minutes till engine shut off = 8min 36.6 seconds

Here are things you can get done in that amount of time...

- Send 20 text messages to friends
- Update your webpage
- Run 1 mile
- Fix and eat a peanut butter and jelly sandwich
- Download 4 ringtones

Mission 3-The Landing: John Glenn’s orbital velocity was 17,500 mph. If you could travel that fast on land, how long would it take you to go from Portland, Oregon to Miami, Florida (2,700 miles)? **Hint: use the formula $d=rt$**

$$d = rt$$

$$2700\text{miles} = 17,500t$$

$$\frac{2700}{17,500} = \text{time}$$

$$.15\text{hrs} = \text{time}$$

.15 hours equals a little more than 9 minutes. So it would take you around 9 minutes to go from Portland to Miami.

Close to Home



Judy Resnik was a 1966 graduate of Firestone High School in Akron, Ohio.

Judy was the second American woman in space. During her career, she spent 145 hours in space.

She was part of the Challenger crew, launched on January 28, 1986, which exploded 73 seconds after liftoff.

The Resnik Community Learning Center (formerly Fairlawn Elementary School) in Akron is named in honor of her life and achievements.

If you would like to learn more about Judy Resnik, visit

<http://www.challenger.org/about/resnik.cfm>

If you would like to see an actual shuttle launch, visit

<http://spaceflight.nasa.gov/gallery/images/shuttle/>