

NAME:

1. The **Lockheed U-2**, nicknamed "Dragon Lady", is an **American single-jet engine, ultra-high-altitude reconnaissance aircraft** operated by the United States Air Force (USAF) and previously flown by the Central Intelligence Agency (CIA). It provides day and night, high-altitude (70,000 feet or ~21,000 m), all-weather intelligence gathering. The U-2 has also been used for electronic sensor research, satellite calibration, and communications purposes. **(from Wikipedia)**

Question: What is the distance to the horizon for a U-2 pilot whilst flying at its service ceiling 70,000 feet (~21,000 m)?

2. **We very well know two facts:**

Fact 1: looking from the Earth, the apparent sizes of the Moon and the Sun are approximately the same.

AND

Fact 2: while orbiting the Earth, the Moon periodically (about once a month) comes in between the Earth and the Sun.

Question: why don't we have solar eclipses every month?