WORKSHEET 3: Types of Lunar Eclipses – Differences from Solar Eclipses

When viewed from Earth, the disk of the Sun is approximately the same size as the disk of the Moon. Therefore, a total, annular and hybrid solar eclipse may occur. When the Moon is eclipsed, the situation is completely different. The shadow cast by the Earth into space is so great that the Moon will always fit in whole. A lunar eclipse is always observable from the entire Earth's hemisphere, where there is night.

The Moon also does not orbit the Earth in the same plane as the Earth around the Sun (= in the ecliptic plane). Therefore, a lunar eclipse will occur only if all three bodies exceptionally reach the same plane. If they orbited in the same plane constantly, the Moon would be eclipsed with each full moon.

Let’s try to specify what lunar eclipse could occur and under what conditions.

Answer
Answer the following questions, you can justify the answer with an explanatory drawing or a calculation:

a) Under what conditions could an annular lunar eclipse occur? If possible, try to refine these conditions by calculation.

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b) Why sometimes a complete and sometimes only a partial lunar eclipse occurs?
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