

Answer on Question #47314, Physics, Mechanics | Kinematics | Dynamics

The moon rotates on its axis once every 27.3 days. Calculate through how many degrees it will rotate about its own axis in six hours?

Solution:

Since there are 360 degrees in a circle, the Moon moves

$$\frac{360^\circ}{27.3} = 13.2^\circ$$

per day (or 24 hours) relative to the its axis.

In six hours it will rotate about

$$\varphi = \frac{13.2^\circ}{24} \cdot 6 = 3.3^\circ$$

Answer: 3.3°.