

Moon Distance Puzzle

Did you ever notice that the Moon and Sun appear to be exactly the same size in the sky? Yet, we all know that the Sun is larger than the Moon. Actually the Sun's diameter is 400 times greater than the Moon's diameter. The Moon appears to be the same size because of a rare coincidence: The Moon is exactly 400 times closer to us than the Sun. That makes the two objects appear to be the same size in the sky.

Many people have a difficult time understanding how close the Moon is to us compared to the Sun, so here's a puzzle for you to contemplate. The information that you need to solve this puzzle is found in the above paragraph.

Imagine a scale model of the distance between the Earth, Sun and Moon using a 40-story building. The Earth is the ground floor and the Sun is on the top floor. There are 10 steps between each floor. On which step, between which floors, would you place the Moon to have the correct scale model of distance.

Hint

Figure out how many steps there are by multiplying the number of steps between each floor by the number of floors.

Fill in the Blanks

The Moon would be on step number _____,
above floor number _____.



Answer

The Moon would be on step number 1, above floor number 1. There are ten steps between each floor and forty floors in all. 40 floors X 10 steps = 400 steps total. Since the Sun is 400 times farther away than the Moon, the Moon must therefore belong on the very first step!