



## Observational test

### **Question:**

At 14 o'clock local time in the morning of the spring equinox a rare transit of Mercury is going to take place. A team of astronomers reaches a mountain top, early in the morning, in order to align his telescope and then observe the transit. The site is new and they do not know the geographical coordinates. Unfortunately the sky is covered with clouds. No stars are visible. The telescope cannot be aligned. The sky is overcast until 11 o'clock. The Sun becomes visible. An experienced astronomer manages to roughly align the telescope in less than 2 minutes! He only uses a water bubble.

You are given the telescope of the 7<sup>th</sup> IOAA and a water level. Assume that it is spring equinox and that the time is 12 o'clock. A fake Sun is shining. Could you align the telescope?

(Note: Obviously for this exercise, a telescope tube is not necessary, therefore, for the sake of convenience, the telescope will be equipped with a rough paper-tube and without counter weights.

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