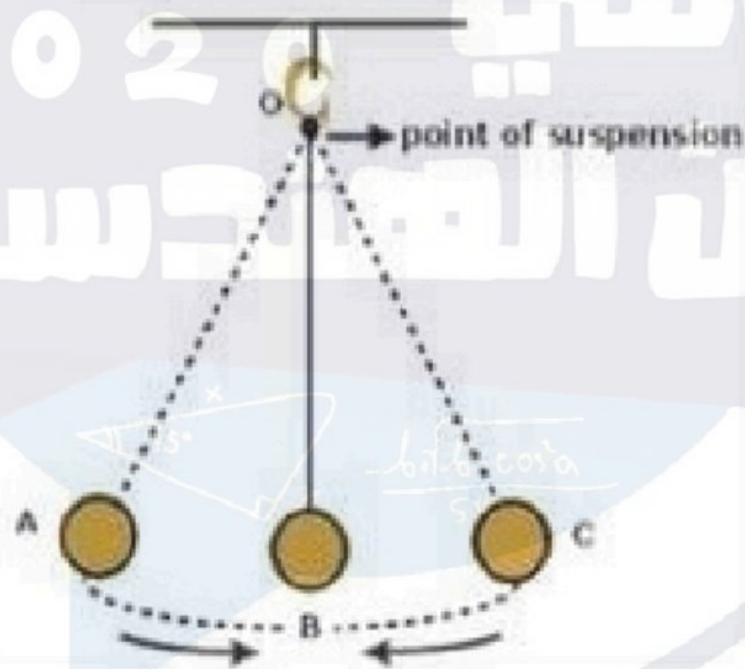
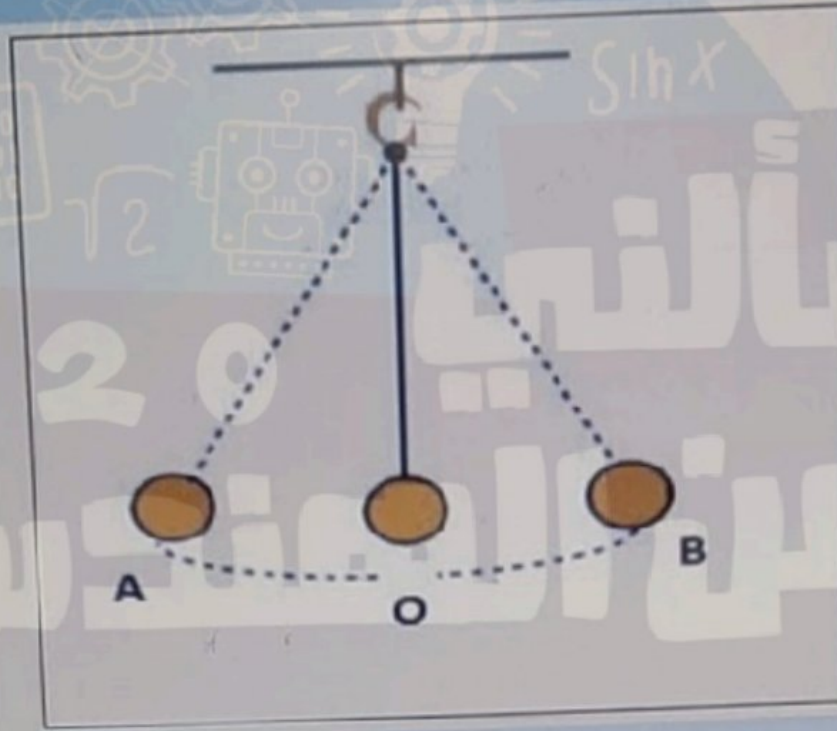


An astronaut performed the simple pendulum experiment at the surface of the moon. He connected a stone of mass 50 g to a string of length $L = 1$ m. He started the simple harmonic motion of the simple pendulum and found that the period is 4.9 seconds. Based on this experiment, the magnitude of acceleration due to gravity at the surface of the moon (measured in m/s^2) is:



- a. 9.80
- b. 15.42
- c. 25.36
- d. zero
- e. 1.64

The time needed for the bob to swing from position A toward position O is measured to be 1.9 s. If the length of the pendulum is 10 m, then the measured value of the acceleration g (in m/s^2) is:



- 9.85
- 2.7
- 10.97
- 1.62
- 6.8

□

$$T = 2\pi \sqrt{\frac{L}{g}}$$

$$4.9 = 2\pi \sqrt{\frac{L}{g}}$$

$$g = 1.64 \text{ m/s}^2$$

$$\boxed{2} \quad T = 1.9 \times 4 \\ = 7.6 \text{ s}$$

$$T = 2\pi \sqrt{\frac{L}{g}}$$

$$7.6 = 2\pi \sqrt{\frac{10}{g}}$$

$$g = 6.83 \text{ m/s}^2$$

