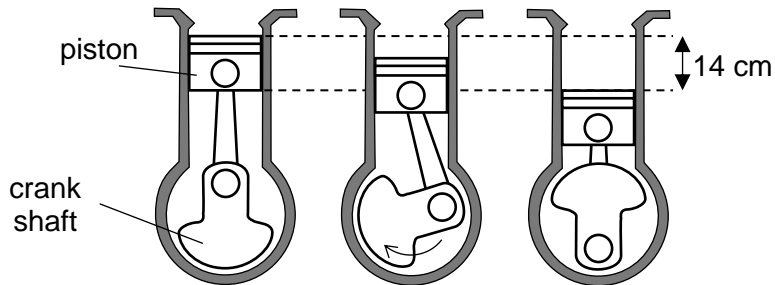


- 14** A piston undergoes simple harmonic motion vertically when cranked by a rotating crank shaft as shown in the diagram below. A coin rests on top of the initially stationary piston. The rotation of the crank shaft gradually increases in speed.



What is the frequency at which the coin loses contact with piston?

- A** 1.0 Hz
- B** 1.3 Hz
- C** 1.9 Hz
- D** 26 Hz

15 Two balls float in the same fluid. The mass of the ball is m and the radius is r . The fluid has a density of ρ and a viscosity of η . The balls are released from rest at a height h above the fluid surface. The balls are released from rest at a height h above the fluid surface. The balls are released from rest at a height h above the fluid surface.