12 A horizontal plate is vibrating vertically with simple harmonic motion at a frequency of 20 Hz.

What is the maximum amplitude of vibration so that a mass placed on the plate always remains in contact with it?

A 6.2×10^{-4} m

B 5.0×10^{-2} m

C 7.8×10^{-2} m

D 4.9×10^{-1} m