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**Ch 11.2 Simple Harmonic Motion** Page 382 - Practice Problems C– Mass Spring System

1. A mass of 0.30 kg is attached to a spring and is set into vibration with a period of 0.24 s. What is the spring constant?
2. When a mass of 25 g is attached to a certain, it makes 20 complete vibration in 4.0 s. What is the spring constant of the spring?
3. A 125 N object vibrates with a period of 3.56 s when hanging from a spring. What is the spring constant of the spring?
4. When two more people get into the car described in sample problem C, the total mass of all four occupants of the car becomes 255 kg. Now what is the period of vibration of the car when it is driven over a pothole in the road?
5. A spring of spring constant 30.0 N/m is attached to different masses, and the system is set in motion. Find the period and frequency of vibration for masses of the following magnitudes.
6. 2.3 kg
7. 15 g
8. 1.9 kg