2 The period T for a mass m hanging on a spring performing simple harmonic motion is

$$T = 2\pi\sqrt{\frac{m}{k}}$$

Such a system is used to determine k, the Hooke's constant. The fractional error in the measurement of the period T is p and that in the measurement of the mass m is q. What is the fractional error in the calculated value of k?

A $p + q$ B $2p + q$

C $p - q$ D $2q - p$