Answer on Question #54023-Physics-Other

What's the spring constant if the mass is $m = 1kg$ suspended from a spring of negligible is found to stretch the spring by $x = 10\ cm$.

Solution

For the equilibrium we need to have

$$Weight = Spring\ force$$

$$mg = kx$$

The spring constant is

$$k = \frac{mg}{x} = \frac{1\ kg\ \cdot 9.8\frac{m}{s^2}}{0.1\ m} = 98\frac{N}{m}.$$

Answer: $98\frac{N}{m}$.