Two objects, one of mass 50 kg and the other of mass 60 kg, are separated by a distance of 70 cm. What is the force of attraction between the objects?

Given:

Mass of object one:	$m_1 = 50kg$
Mass of object two:	$m_2 = 60$ kg
Distance between the objects:	d = 70 cm = 0.7 m
Universal Gravitational Constant	$G = 6.67 \times 10^{-11}$ m^3 kg^{-1} s^{-2}

Determine:

Force of attraction between objects: F

To find the force of attraction between the two objects, use Newton's universal law of gravitation formula :

$$F = Gm_1m_2 / d^2 \quad \text{---------- (1)}$$

Substituting for G, m_1, m_2 and d in (1):

$$\mathbf{F = (6.67 \times 10^{-11} \times 50 \times 60) / (0.7)^2 = 4.1 \times 10^{-7} N}$$