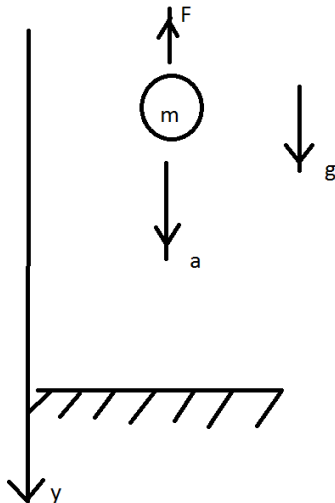Find the force applied on a 10Kg body downward with an acceleration of 3 taking the value of gravity 10?

!!! Necessary to clarify the condition of the problem.

1. The body falls to the acceleration of 3 m/s2

2. The body falls to the acceleration and = 3g

Solution1:

Let $m_b = 10\ kg; a = 3\frac{m}{s^2};\ g = 10\frac{m}{s^2}$
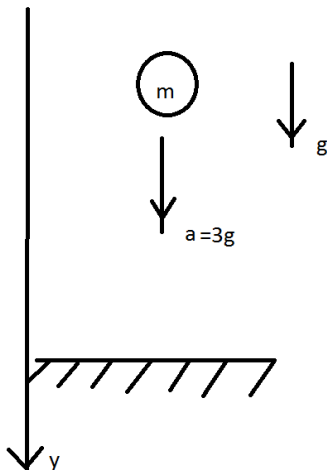

Newton's second low in our case:

$$-F + mg = ma \rightarrow F = m\,(g - a) = 10\,(10 - 3) = 700\ N$$

I suppose this is body fall in the air anf F – force of the air resistance.

Answer 700N

Solution 2

Let $m_b = 10\ kg; a = 3g = 30\frac{m}{s^2};\ g = 10\frac{m}{s^2}$

Newton's second low in our case:

$$F + mg = ma \rightarrow F = m\,(a - g) = 10\,(30 - 10) = 200\ N$$

Answer: 200N