Answer on Question 66881, Physics, Mechanics, Relativity

Question:

A parked plane has a PE of $35456\,J$. If the plane is placed on a ramp that is $2.1\,m$ high to work on the wheels, what is the mass of the plane?

Solution:

By the definition of the potential energy we have:

$$PE = mgh,$$

$$m = \frac{PE}{gh} = \frac{35456\,J}{9.8\,\frac{m}{s^2} \cdot 2.1\,m} = 1723\,kg.$$

Answer:

$m = 1723\,kg.$