Answer on Question 51059, Physics, Mechanics | Kinematics | Dynamics

Question:

How much work is done when a bucket of mass $1.5kg$ with $10kg$ of water in it is pulled up from the bottom of a well $8m$ deep? Take $g = 9.8\frac{m}{s^2}$

Solution:

By the definition, work done by the bucket of mass $1.5kg$ with $10kg$ of water in it if it is pulled up from the bottom of a well $8m$ deep is:

$$W = (m_{bucket} + m_{water})gh = (1.5kg + 10kg) \cdot 9.8\frac{m}{s^2} \cdot 8m = 901.6J.$$

Answer:

$W = 901.6J.$