

Answer on Question #62339-Physics – Mechanics | Relativity

A bird sits on a tree and drops a 0.15kg nut. When the nut is 50m above the ground it has a speed of 42.7m/s. How high was the bird when it dropped the nut if you ignore air resistance.

Solution

$$mg(H - h) = \frac{mv^2}{2}$$
$$H = h + \frac{v^2}{2g} = 50 + \frac{42.7^2}{2(9.8)} = 143 \text{ m.}$$

Answer: 143 m.

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