

Answer on Question #70331-Physics-Other

A person falls from rest at a height of five meters. Their mass is 70kg. When they land the impact has a duration of 0.1 seconds. What forces was developed on impact

Solution

The velocity before impact is

$$v = \sqrt{2gh}.$$

The force is

$$F = \frac{mv}{t} = \frac{m\sqrt{2gh}}{t} = \frac{70\sqrt{2(9.8)5}}{0.1} = 6930 \text{ N}.$$

Answer: 6930 N.

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