

Answer on Question#41018, Physics, Mechanics Question: A bug jumps straight up to a maximum height of 0.36 m. What is its initial velocity (in m/s) as it leaves the ground? Ignoring air resistance. a) 2.7 b) Zero c) 7.1 d) 1.8 e) 4.8

Solution. Maximum height and initial velocity are related as

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

Hence

$$v = \sqrt{2 \cdot 0.36 \cdot 9.8} \approx 2.7 \text{ m/s}$$