

23.5 To determine freefall acceleration on a moon with no atmosphere, you drop your handkerchief off the roof of a baseball stadium there. The roof is 113 meters tall. The handkerchief reaches the ground in 18.2 seconds. What is freefall acceleration on this moon? (State the result as a positive quantity.)

m/s²

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(ans = 0.682 m/s² but it should really be a -0.682 m/s² because the acceleration due to gravity is pulling down. The physics book can't handle the truth)

23.7 On the Apollo 15 space mission, Commander David R. Scott verified Galileo's assertion that objects of different masses accelerate at the same rate. He did so on the Moon, where the acceleration due to gravity is 1.62 m/s² and there is no air resistance, by dropping a hammer and a feather at the same time. Assume they were 1.25 meters above the surface of the Moon when he released them. How long did they take to land?

s

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(ans = 1.24 s, don't forget about the sign of the acceleration!)