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Acceleration

Topics: Acceleration in 1 Dimension

Problem 1: Acceleration of a Car

A car starts from rest and accelerates uniformly at a rate of 2.5 m/s^2 for 10 seconds.

Calculate the following:

The final velocity of the car after 10 seconds.
The distance the car travels during this acceleration period.

Problem 2: Falling Object on Mars

Imagine a hypothetical scenario on Mars, where the acceleration due to gravity is approximately 3.7 m/s^2. An object is dropped from a height of 7.4 meters on the Martian surface. Calculate the following:

The time it takes for the object to reach the ground on Mars.
The final velocity of the falling object on Mars when it hits the ground.