

Pre-AP Physics

Chapter 2-Vertical Motion Review

Name _____

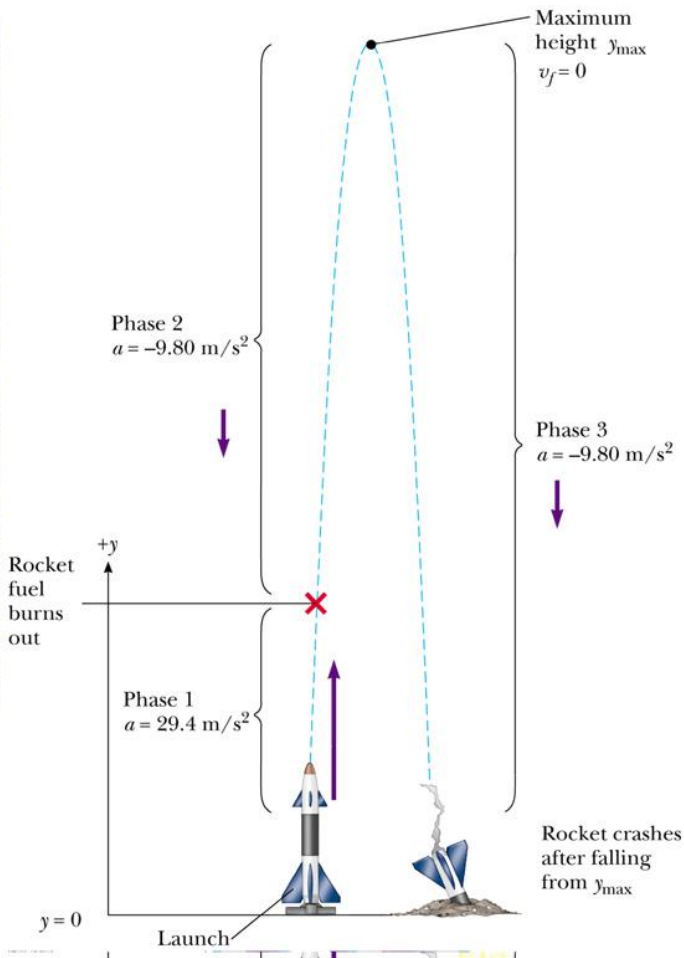
Show diagram, unless given, label all given information, show all formulas, rearrange before substitution, substitute and solve. Check answer and label with appropriate units.

1. A model rocket is launched straight upward with an initial speed of 45.0 m/s. It accelerates with a constant upward acceleration of 2.00 m/s^2 until its engines stop at an altitude of 175 m.
 - (a) What is the maximum height reached by the rocket?
 - (b) How long after lift-off does the rocket reach its maximum height?
 - (c) How long is the rocket in the air?

Show diagram, unless given, label all given information, show all formulas, rearrange before substitution, substitute and solve. Check answer and label with appropriate units.

A rocket moves straight upward, starting from rest with an initial acceleration of 29.4 m/s^2 for 6 s. It runs out of fuel at the end of this 6s and continues to move upward for a while.

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- How high does it rise from its starting point?
- What is its velocity the instant before it hits the ground?