
Task #1

The Eiffel Tower is 324 meters tall. If we make the (totally unrealistic) assumption that there is no air resistance, how fast would a penny dropped from the Eiffel Tower be travelling the moment before it hit the ground?

Task #2

You have a kitten named Mittens. You toss Mittens into the air at an initial velocity of 8 m/s.

- (a) How high will Mittens go before coming back down (at which point, you, of course, will gently catch her.)
 - (b) What is the total time that Mittens is in the air?
 - (c) What is Mittens' velocity right before she is caught?
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Task #3

You stand at the top of a 30-meter cliff and shoot an arrow straight up into the air at an initial velocity of 12 m/s. You let it fall down to the bottom of the cliff

- (a) How fast will the arrow be travelling when it makes it to the bottom of the cliff?
 - (b) How long will the arrow be in the air?
 - (c) What is the maximum height of the arrow?
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