

Dear Calculus Student,

My name is John Kismosetk, and I am the director of the action-packed movie, *The Motorcycle Dude* (starring Evyl K., coming Summer 2006 to a theater near you). I have a great stunt planned for the second half of the movie. Picture this: Someone drops a sack of money from a helicopter, Evyl K. sees it, drives his motorcycle over and catches it right before it hits the ground, and rides off into the sunset. Cool, huh?

Of course, I just come up with the ideas; I'm no good at the logistics. Here's what I know: from the time the sack of money is dropped, it takes exactly 10 seconds until it reaches the level where Evyl K. can catch it. He is on his motorcycle, at rest, 0.1 miles away from where the sack will hit the ground (if he doesn't catch it). After he sees the sack start to fall, he is going to "floor it" (movie-speak for push the gas pedal all the way to the floor), and travel in a straight line to where the money will fall.

I don't know much about the motorcycle, except that when Evyl K. hits the pedal, his acceleration is constant and he can go from 0 mph to 60 mph in 5 seconds. Also, the maximum velocity is 240mph. If he reaches this speed, the pedal does not accelerate him beyond this speed.

Can you tell me how long Evyl K. should wait to "floor it" after the sack of money starts to fall, so that he catches it? In return, I'll be happy to credit you as "Mathematical Consultant" for this film.

Warmest regards,

*John Kismosetk*

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