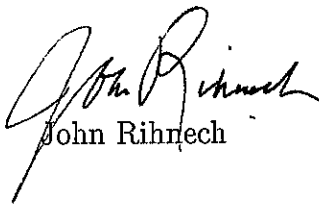Dear Math Genius,

I am writing to ask for your help with a movie I am making. Perhaps you'll have heard of me. I'm the creator of such films as *Die Hard*, *Die Harder* and *Die Hard: With a Vengeance*. My new film, *Die Much Harder: With Even More Vengeance*, will top them all if I can figure out how to execute this awesome stunt at the climax of the film. That's where you come in.

Here's the setup: our stunt man must drive a motorcycle through a burning building just before the building explodes. We need to time this thing out so that the explosion happens just as the motorcycle reaches it's target outside of the building—not a moment sooner or later. The stunt man has $\frac{1}{6}$ of a mile to ride from the room where he detonates the explosives to safety just beyond the loading docks. Once the button has been pressed, it takes 15 seconds for the explosion to fire and the stunt man needs 5 seconds to get on his bike, so he only has 10 seconds to ride to safety. The big question is: what constant acceleration will he need to maintain to get out of there alive?

If you can successfully help us with this stunt, we'll display your name prominently in the credits and consider you for more jobs in the future. So please write back and explain to us in detail how you solved the problem and what answer you came up with. Our accountant Ms. Desrenan took calculus in college and she's willing to decipher your solution for us, but try to keep in mind that she doesn't remember much so make your explanation as complete as possible. Thanks for your help!

Sincerely,

John Rihnech

NAME:_____

total:_____ out of: __20__

CHECKLIST FOR YOUR WRITING ASSIGNMENT

DIRECTIONS:

Please attach this page to your writing assignment when you turn it in.
These criteria will be used to grade your assignment, and will be returned to you
with comments.
Feel free to use this checklist as a guide for yourself while writing this
assignment.

DOES THIS PAPER:	
1. clearly (re)state the problem to be solved?	_____
2. state the answer in a complete sentence which stands on its own?	_____
3. clearly state the assumptions which underlie the formulas?	_____
4. provide a paragraph which explains how the problem will be approached?	_____
5. use diagrams, tables, or graphs to help explain the mathematics and clearly label them (if these are used)?	_____
6. define all variables used?	_____
7. explain how each formula is derived, or where it can be found?	_____
8. give acknowledgement where it is due?	_____
IN THIS PAPER,	
9. are the spelling, grammar, and punctuation correct?	_____
10. is the mathematics correct?	_____
11. did the writer solve the question that was originally asked?	_____