

Wile E. Coyote

Wile E. Coyote Writing Project

The following group project is to be worked on by *no more than four* students. You may use any materials you think may be useful in solving the problems but *you may not* ask anyone for help other than the people you have chosen to work with. This means you may not ask a tutor or any person other than those in your immediate group for help.

You are to type a response to the problem presented backing up your conclusions with mathematical reasoning, formulas, and solutions. Your grade will depend on how well you communicate your response as well as the accuracy of the conclusions. This project will be scored using the rubric on the last page of this document.

Please sign and date here to indicate that you have read and agree to abide by the above mentioned stipulations.

Student Name #1

Date

Student Name #2

Date

Student Name #3

Date

Student Name #4

Date



Genius Extraordinaire!

Trey Cox and Scott Adamson ©2003

Wile E. Coyote

Wile E. Coyote
4 Corner's Rural Route
Monument Valley, AZ 27182

Chandler-Gilbert Community College
MAT 151 Students
7360 East Tahoe Avenue
Mesa, AZ 85212

Dear Algebraic Analysts,

I found it! I have the perfect location to pull off my ingenious scheme to finally catch that hard to get a hold of Road Runner (Birdicus Speedicus)! I have been toying with the idea of dropping a perfectly-timed rock onto that foul fowl for quite a while now but haven't been able to find the proper setting. Well, that little problem has been solved!



While I was out and about collecting the rare ingredients for my very special saguaro cactus salad I ventured into an area of the desert I didn't remember existed. The valley I found myself in was made to order for my nifty plan. You see the sight includes a rock spire located right next to the highway that the Road Runner so often travels. The road bends around a rock cliff wall so from the Road Runner's vantage he will be unable to see me perched atop the rock formation with a large boulder prepared for his passing.

Considering my vast experience with falling bodies (i.e. my own), I was sure that I could lay out plans well enough to bag the R.R. on my own. However, I have come up against a couple of snags that require some formal mathematics. I am contacting you because of your world-renowned work with functions, rates of change, and other high-level mathematical understandings. I am sure I can trust you, so I am filling you in on the top secret thoughts I have and what information I need you to provide so I can enter the implementation phase.

In case you are not aware, I have not had a good track record in the many efforts I have put forth to snare my prize. Since you are so knowledgeable in this area, it would be very accommodating of you if you could give me detailed directions as to how you think I should proceed. With your help maybe this time I can realize my goals of a Road Runner Roast for the soirée I have planned. I am including a map and some information you may need.

Some questions that came to my highly intellectual mind I thought you may have to address are:

- When should the rock be dropped?

Genius Extraordinaire!

Trey Cox and Scott Adamson ©2003

Wile E. Coyote

- Is the weight of the rock I choose to drop a factor in the plan?
- How fast at impact do you expect the rock to be falling? (I don't want the bird to be damaged too much although a little pulverization could make for some nice tender morsels.)
- What if I used a catapult that helped me get the boulder off the rock pedestal? The catapult I have handy can release a rock upward at 20 feet per second.

I am sure that there are many other factors to consider so please bring those to my attention as well. Give me a plan for both using the catapult and a plan for just shoving the boulder off.

I am excited and confident that this elaborate and foolproof scheme will finally snag that Road Runner. The painstaking plans you are helping me construct will surely reap a bountiful bird harvest! By the way, do you like dark or white meat?

Forever famished,

Wile E. Coyote ☞ (Eatius Birdius)



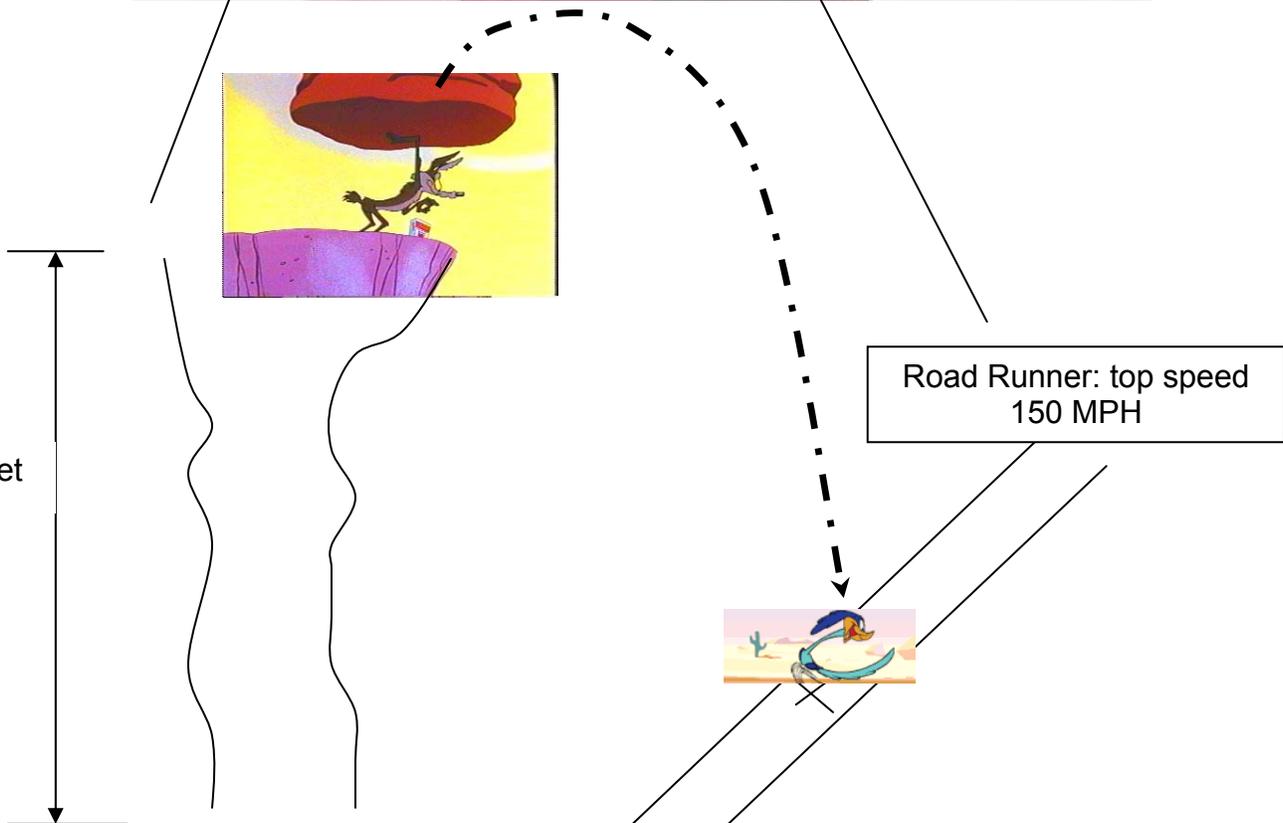
Genius Extraordinaire!

Trey Cox and Scott Adamson ©2003

Wile E. Coyote



300 feet



Road Runner: top speed
150 MPH

Genius Extraordinaire!

Trey Cox and Scott Adamson ©2003

Wile E. Coyote

Writing Project Evaluation/Checklist

Gateway checklist - these items must be present in order for the paper to be evaluated:

| Yes | No | Expected Features |
|-----|----|--|
| | | 1. Is the work all computer generated? |
| | | 2. Is there algebraic (symbolic), numerical (tabular), and graphical support included in the work? |
| | | 3. Is there a description of the solution(s)? |
| | | 4. Is the noise (i.e. grammatical, punctuation, spelling, etc. errors) level low enough to not cause communication problems? |
| | | 5. Is the project free of major errors? |
| | | 6. Is acknowledgment given where it is due, if appropriate? |

Your final score will be calculated based on your performance on these features:

| Very Good | Good | Poor | Features |
|-----------|------|------|--|
| | | | Clear and complete summary of the problem(s) to be solved <ul style="list-style-type: none"> • Introductory paragraph lays the background for the problem situation and its solution • Shows why the question(s) to be addressed are important |
| | | | Precise and well-organized explanation of how the answer was found including <ul style="list-style-type: none"> • Assumptions (if appropriate) • definitions of mathematical terms • algebraic (symbolic) support • graphical support • numerical (tabular) support |

Genius Extraordinaire!

Trey Cox and Scott Adamson ©2003

Wile E. Coyote

| Very Good | Good | Poor | Features |
|-----------|------|------|--|
| | | | The audience was kept in mind when making explanations/descriptions of the mathematical concepts and solutions. |
| | | | Solves each of the problem(s) that were originally asked and there are no obvious errors in the solution(s). |
| | | | Shows understanding of the mathematical concepts and their appropriate use. |
| | | | Complete use of graph mechanics including: <ul style="list-style-type: none"> • labeled axes with units • labeled axis divisions • descriptive title • clear and descriptive legend • data points shown |
| | | | Concluding paragraph summarizes the purpose of the project and the outcome. Briefly closes the letter by stating any limitations or suggestions for improvement. |
| | | | Style and readability demonstrates a quality of imagination and rigor that results in a distinctive project. The project shows a personal exploration and is creative/original. |

| Comments on quality of submitted work and how any problems might be resolved in future projects |
|--|
| |

Results of Assessment

| 50 | 45 | 40 | 35 | 30 | |
|----|----|----|----|----|---|
| | | | | | 50 - All Very Good's 45 - At least 3 Very Good's and no Poor's 40 - At least 2 Very Good and no Poor's 35 - All Good's 30 - At least 3 Good's 0 - All Poor's |

Genius Extraordinaire!

Trey Cox and Scott Adamson ©2003