

My Calculus Murder Mystery [aka “The Slope Field Murder”]

Scene 1 Room 222

Ms. McCleary’s body is on the floor. Her giant slide rule is next to her body and she appears to be dead. She died clutching a TI calculator.

Detective Inspector Elvis [DI] and his assistant Police Constable Skippy [PC] enter the room

DI: Oh my! It appears that someone has killed Ms. McCleary. PC, check for a pulse

PC: I’m not touching her, you check

DI: I’m not touching her!

A female [FS] student enters the room and screams

FS: On my! Did someone kill Ms. McCleary?

DI: That’s what I said!

Female student checks for pulse

FS: Yes, she’s dead. Oh look, she is holding her beloved calculator

DI: Well it looks like we will have to pry her calculator from her cold, dead hands

PC Skippy, get the calculator.

PC: I’m not touching her

DI: Well, I’m not touching her either

FS: [*Sighs*] I’ll get it [*Gives both guys a look of contempt, then retrieves the TI*]

DI: Let me see that calculator. [*Looks at calculator*] Ah ha! It appears that the victim has left us a clue. The calculator screen says “ $\frac{dy}{dx} = x + y$ ” [*Shows TI to camera*]

FS: Oh! I think I know who is responsible.

DI: You think you or you know?

FS: I think that the person who killed the victim was a member of the infamous SF305

gang. You know, the gang who have slope field “tats”

DI: Hmmm! I think the SF305 gang is behind this crime.

FS: I just said that!

DI: PC Skippy, go round up the gang members. I think I know how to figure out who committed the murder.

PC: Sure thing, DI Elvis.

Scene 2

Five Members of the SF305 gang are lined up in front of DI Elvis and PC Skippy. Each member of the gang has a slope field “tat”

DI: I have brought you here because I know that one of you is responsible for the death of that crazy Calculus teacher. I just need to see your tattoos.

SF305 gang starts protesting and complaining

DI: Enough whining! Roll up your sleeves.

SF305 gang rolls up their sleeves and forms a line.

DI: [*Whispers*] PC Skippy, help me out here. I was absent that month that we covered slope fields in Calc class.

PC: [*Whispers back*] No problem. I got an “A” on that chapter test.

PC Skippy and DI Elvis go up to the first gang member and look at his/her tattoo. [Close up on tattoo]

DI: [*Shouts*] Ah ha! You are the killer!

PC: Not so fast, DI Elvis. This is the slope field for $\frac{dy}{dx} = \frac{x}{y}$. See the horizontal and vertical segments. [*Points to the horizontal segments*]

DI: I knew that. I was just testing you. Let’s check the next suspect.

PC and DI go up to next suspect and look at his/her tattoo. [Close up on the tattoo]

DI: Ah ha! You are the killer!

PC: Not so fast, DI Elvis. This is the slope field for $\frac{dy}{dx} = x$. See how the columns are the same.

DI: I knew that!

PC and DI go up to next suspect and look at his/her tattoo. [Close up on the tattoo]

DI: Ah ha! You are the killer!

PC: Not so fast, DI Elvis. This is the slope field for $\frac{dy}{dx} = y$. Notice how the rows are the same.

DI: I knew that!

PC and DI go up to next suspect and look at his/her tattoo. [Close up on the tattoo]

DI: Ah ha! You are the killer!

PC: Not so fast, DI Elvis. Close, but not close enough. This is the slope field for

$$\frac{dy}{dx} = x - y. \text{ We're looking for } \frac{dy}{dx} = x + y$$

DI: Well, we're running out of suspects. This kind of feels like one of those AP multiple-choice questions.

PC: It's possible that it's one of those "NONE OF THESE" answers

DI: I always hated those questions.

PC: Me too. We need to check the last suspect.

PC Skippy and DI Elvis go the last suspect. [Close up on the tattoo]

DI: Well...

PC: *[Stares at the tattoo for a moment]* DI Elvis, we have found our killer. This tattoo is the slope field for $\frac{dy}{dx} = x + y$

DI: I knew that! *[Turns to suspect]* You are under arrest for the fatal attack on the AP Calculus teacher. We are going to put you away for a long time.

PC: Hey! I finally got an opportunity to use my vast knowledge of Calculus to solve a crime.

DI: I think that the record will show that I solved the crime.

PC: Whatever...

[End of movie. Roll credits]

Written by: Denise Fuji McCleary, Fairview High School, Boulder, CO