

Skate Kings

Objective: Apply and assess systems of equations to a practical scenario.

Due: Tuesday, 06 April 2016, 00:01hrs (midnight). Submit a Google Sheets data table and graph of your graphic solution of the system, and a Google Doc file for the algebraic solution and question responses.

filename examples

03PeterF_SkateKings Graph Solution (google sheets)

03PeterF_SkateKings Algebra Solution & Responses (google docs)

Background:

AlbertS gets noticed by Molecule™ skateboard makers, and they offer a sponsorship contract. AlbertS is paid an initial sum, and must appear at skating exhibitions every week. That sum includes the entry fees and replacing boards, trucks, bearings, etc. All Albert has to do is show up, skate, and earn the adulation of fans and trophies.

KevinC gets noticed by Zeus™ footwear, and they offer him a sponsorship contract, also. Kevin must also appear at weekly exhibitions, but is not paid an initial sum. KevinC's contract pays him for each appearance. Kevin decides to spend his own money initially for his equipment.

After 2 weeks, AlbertS is down to \$5,760; after 9 weeks he's down to \$4,920. After 3 weeks, KevinC is still down by \$3,760; after 7 weeks he's only down by \$3,440.

Tasks: Assume the relationships between money and time are linear.

1. Write a point-slope equation for Albert and Kevin's money (y) versus time (x).
2. Write each equation in slope-intercept form.
3. What was Albert's initial sum? What was Kevin's initial expense? Justify your solutions.
4. What is Albert's consumption rate? Justify your solution.
5. What is Kevin's earning rate? Justify your solution.
4. Solve this system graphically, and interpret the solution.
5. Solve the system algebraically, and interpret the solution.

Questions

1. Whose contract would you rather have? Justify your argument with evidence from your tasks.
2. Analyze and interpret the system beyond the solution. What is happening before the solution to the system; what is happening after the solution to the system? Justify your response with evidence from your tasks.