Name_____ Distance - Velocity - Acceleration

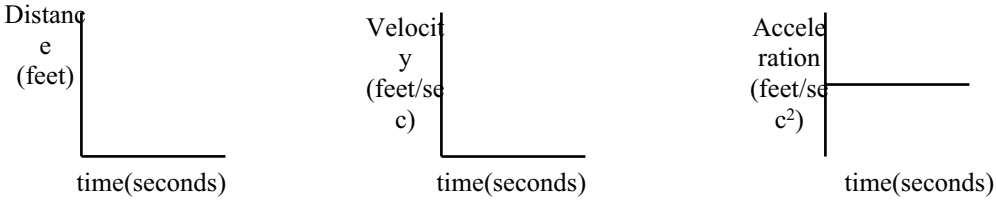
The connection between distance, velocity, and acceleration is one of the important themes of differential calculus. The relationship can be stated as follows:

- **Velocity is change in distance divided by change in time.**
- **Acceleration is change in velocity divided by change in time.**

The following diagrams show the position of a cyclist riding for a 5 second time interval. The total distance traveled at each 1 second interval is given.

seconds	0	1	2	3	4	5
						
feet	0	14	28	42	56	70

1) Use the data above to sketch distance, velocity, and acceleration graphs.



2) Determine the equations of the graphs you sketched:

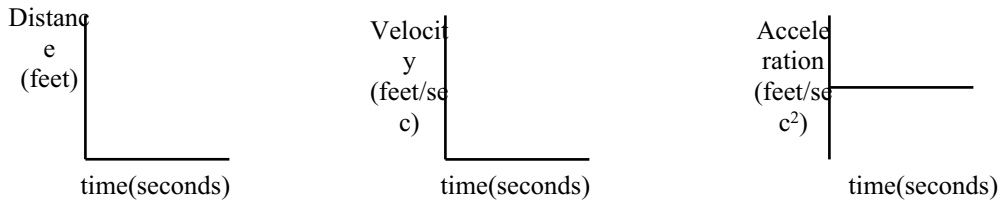
Distance:

Velocity:

Acceleration:

seconds	0	1	2	3	4	5
feet	0	10	22	36	52	70

1) Use the data above to sketch distance, velocity, and acceleration graphs.



2) Determine the equations of the graphs you sketched:

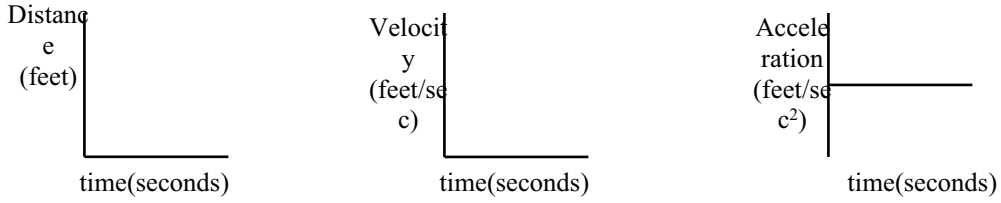
Distance:

Velocity:

Acceleration:

seconds	0	1	2	3	4	5
feet	0	24	44	60	72	80

1) Use the data above to sketch distance, velocity, and acceleration graphs.



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