

[2.1.A.b] Analyze the velocities of two objects in terms of distance and time (graphically and mathematically).

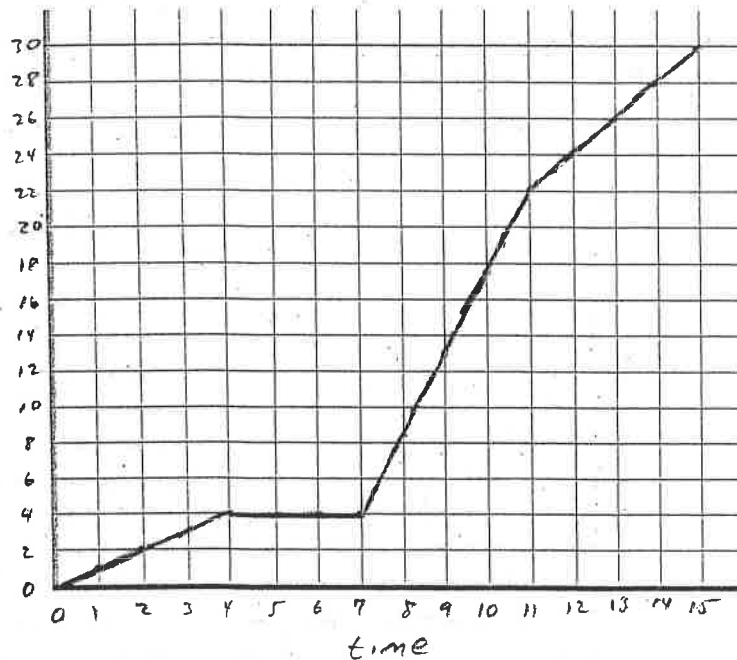
TARGET PRACTICE

Chapter 2 – Speed
002

Answer the following questions to the best of your ability. Show your work for FULL CREDIT.

Jill walks forward while Bob records her distance from where she started at one second intervals. The data is recorded below. Using the recorded data, Jill's average speed during any time interval can be determined.

Total Time (s)	Total Distance (m)
0.0	0.0
1.0	1.0
2.0	2.0
3.0	3.0
4.0	4.0
5.0	4.0
6.0	4.0
7.0	4.0
8.0	8.5
9.0	13.0
10.0	17.5
11.0	22.0
12.0	24.0
13.0	26.0
14.0	28.0
15.0	30.0



- What was Jill's average speed for:
 - The first four seconds? _____
 - The time interval 7.0 s to 11.0 s? _____
 - The last four seconds? _____
 - The entire trip? _____
- Suppose the distance for 16.0 s was 29.0 m, describe the motion of Jill during this time.
- Looking at the graph, what conclusion can you make about the relationship between the steepness of the distance/time graph and Jill's speed?

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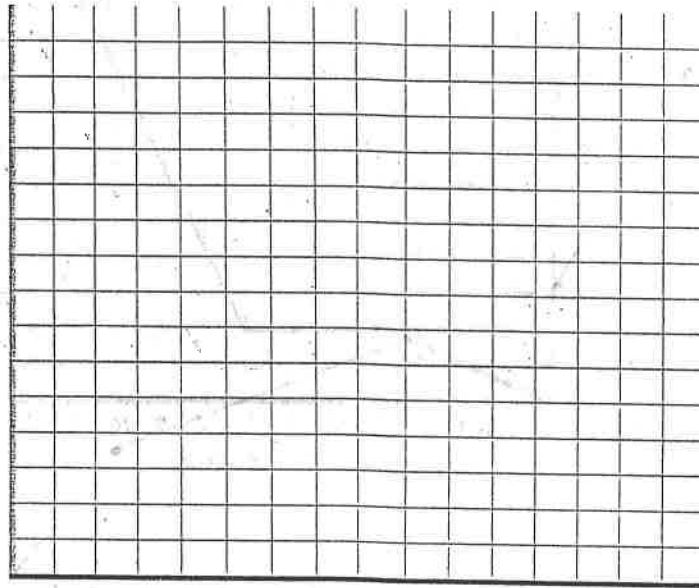
TARGET PRACTICE

Chapter 2 – Speed

003

Answer the following questions to the best of your ability. Show your work for FULL CREDIT.

It is now 10:29 a.m. but when the bell rings at 10:30 a.m. Suzette will be late for French class for the third time this week. She must get from one side of the school to the other by hurrying down three different hallways. She runs down the first hallway, a distance of 35.0 m, at a speed of 3.50 m/s. The second hallway is filled with students and she covers the 48.0-m length at an average speed with an average speed of 1.20 m/s. The final hallway is empty, and Suzette sprints its 60.0-m length at a speed of 5.00 m/s.



1. Draw a distance v. time graph of the situation.
2. Does Suzette make it to class on time or does she get detention for being late again?