

# U4D5\_T Distance Time Graphs

Thursday, March 22, 2018 11:51 AM



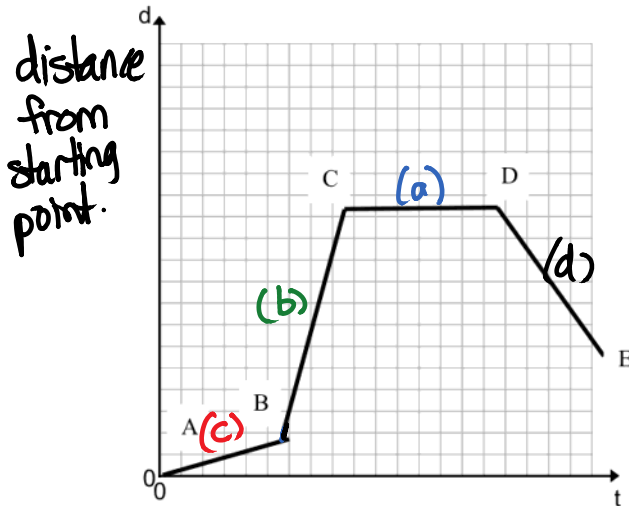
U4D5\_T  
Distance ...

U10D5

## 2.6 Distance – Time Graphs

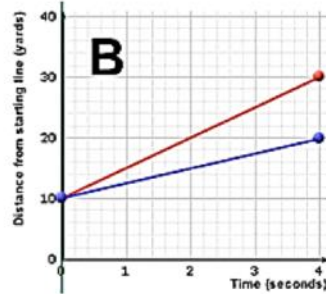
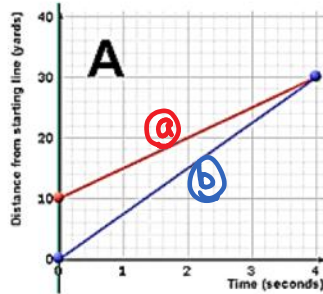
A distance – time graph shows an object's distance from a fixed point over a period of time.

Example 1: State which phrase best describes each segment of this distance time graph.



- a) No Movement **CD**  
horizontal line
- b) Fastest Movement **BC**  
steepest line
- c) Slowest Movement **AB**  
least steep line
- d) Backward Movement **DE**  
sloping down  
(because distance from starting point is decreasing)

Example 2: Given the following graphs in each one compare and contrast the start and finish of each person as well as their speed throughout the time period of the graph.



A:  
**SAME** : • end  
 • both constant speed

B:  
**SAME** : • start  
 • both constant speed

**DIFFERENT** : • start  
 • total distance  
 • speeds  
 @ speed =  $20\text{yd}/4\text{s}$

**DIFFERENT** : • speeds  
 • end  
 • total distance

$= 5\text{yd/s}$   
 (b) speed =  $30\text{yd}/4\text{s}$   
 $= 7.5\text{yd/s}$

U10D: C:

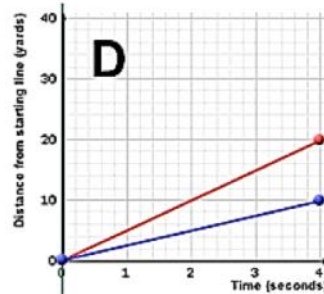
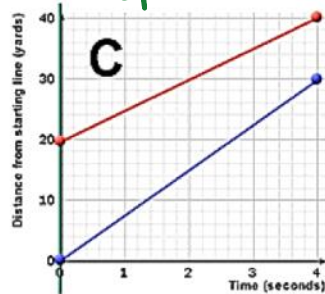
D:

**SAME:** both running at a constant speed

**SAME:** • start  
• both constant speed

**DIFFERENT:**  
• start  
• end  
• total distance  
• speed

**DIFFERENT:**  
• end  
• total distance  
• speed



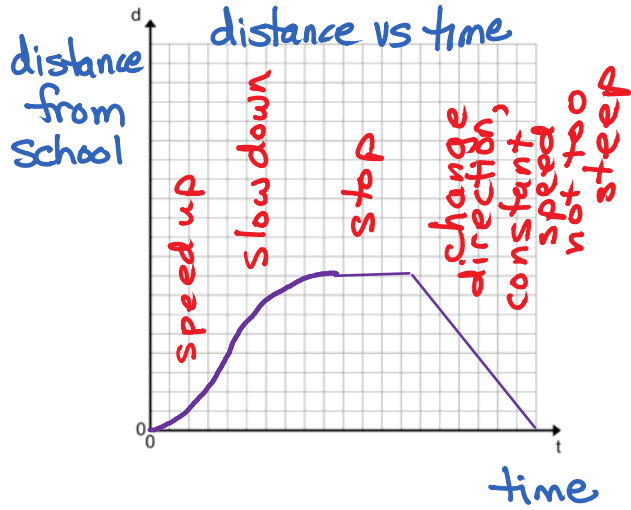
U4D5 HW: Pages 91-93 # 1 – 5, 6ab, 7, 8

**Example 3:** Draw a distance – time graph for each situation

- a) A student leaves home, walking at a constant speed. She slows down, and then stops for a few seconds to look in a store window. She turns around and walks back home at a decreasing speed



b) A student leaves school at lunch walking at an increasing speed. He slows down and talks to a friend, continues on to Tim Hortons, gets a coffee and then returns to school at a constant speed.



### SUMMARY of Distance – Time Graphs:

- A rising line shows that the distance increases as time increases (moving away from starting point)
- A falling line shows a decrease in distance with time (moving toward starting point)
- A horizontal line shows that the distance remains constant (no movement -- stopped)
- Steeper lines mean faster movement

slowing down

speeding up

moving  
away

moving  
back