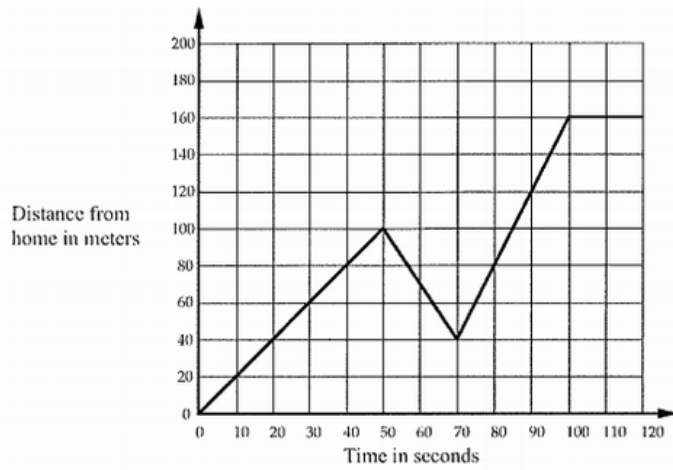


# Story Graphs

Every morning Tom walks along a straight road from his home to a bus stop, a distance of 160 meters. The graph shows his journey on one particular day.



- Describe what may have happened. You should include details like how fast he walked.

.....

.....

.....

.....

.....

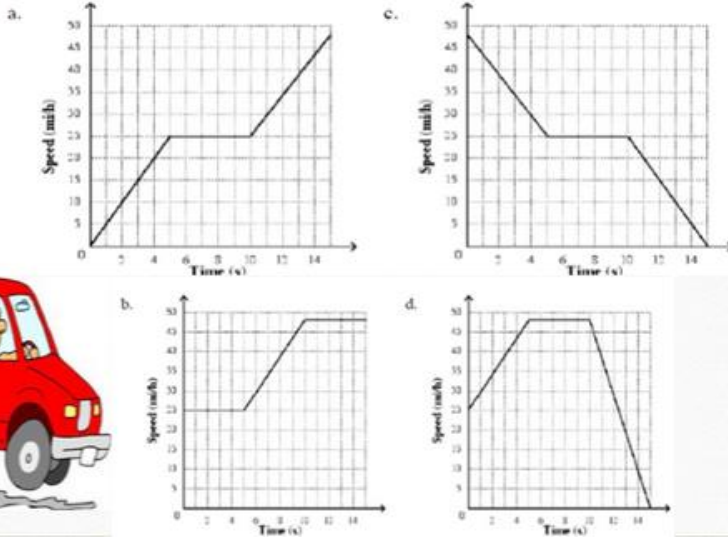
.....

- Are all sections of the graph realistic? Fully explain your answer.

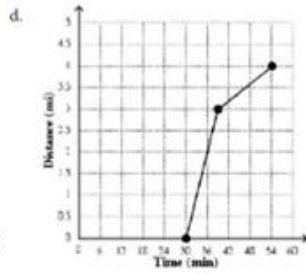
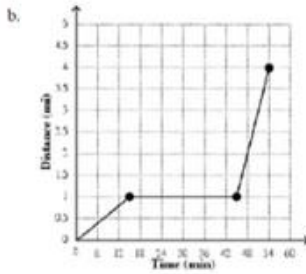
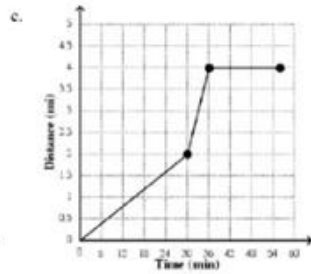
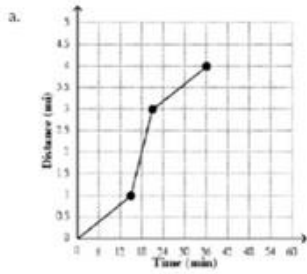
.....

.....

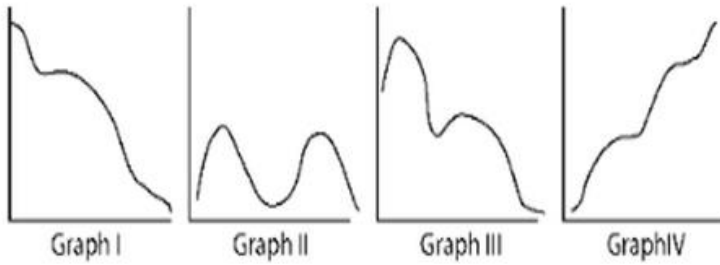
A car traveling at 0 mi/h accelerates to 25 mi/h over the first 5 seconds. It maintains that speed for the next 5 seconds, and then accelerates to 48 mi/h during the next 5 seconds.



2. Select a graph for the situation. You wait for the express bus for 30 minutes, get on and ride the bus non-stop for 3 miles, and then walk another mile to your home.

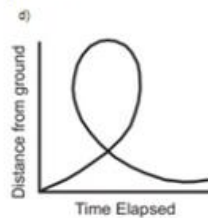
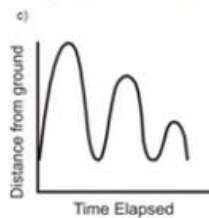
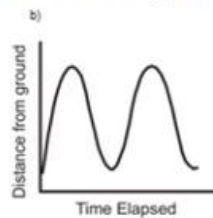
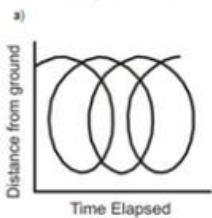


3. Which graph most likely describes the distance a person walks in a 24-hour period? Why?

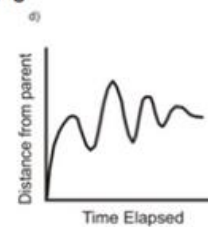
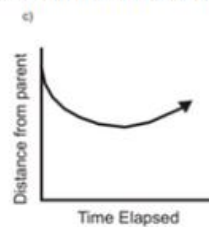
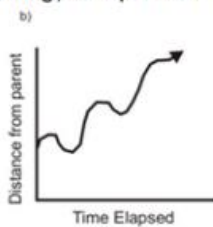
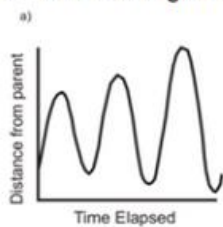


- a. Graph II      b. Graph III      c. Graph IV      d. Graph I

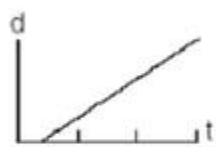
1. A bicycle valve's distance from the ground as a boy rides at a constant speed.



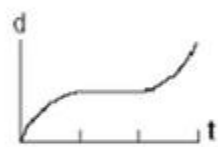
2. A child swings on a swing, as a parent watches from the front of the swing.



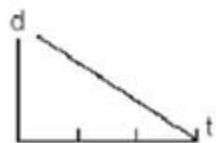
5) A bug travels up a tree, from the ground, over a 30-second interval. It travels fast at first and then slows down. It stops for 10 seconds, then proceeds slowly, speeding up as it goes. Which sketch best illustrates the bug's distance ( $d$ ) from the ground over the 30-second interval ( $t$ )?



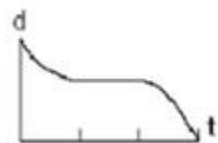
(1)



(3)



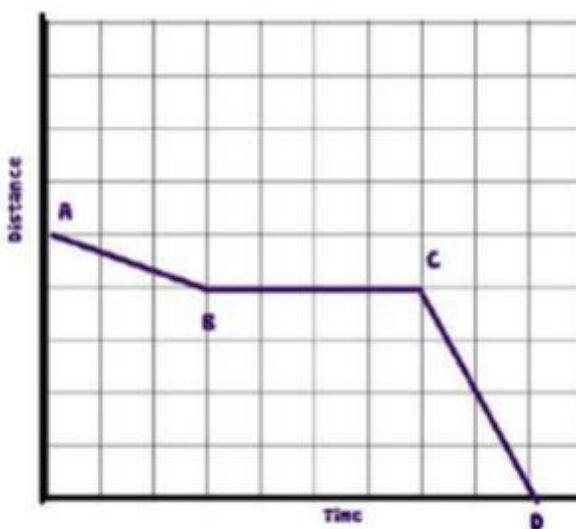
(2)



(4)

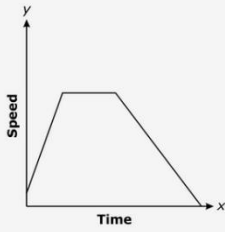
An Airplane is descending to land at the airport. During its descent it had to fly in circles until the landing was cleared of other planes. Explain what is occurring during each of the segments.

1)



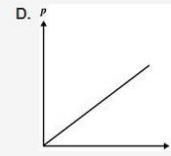
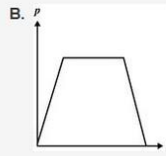
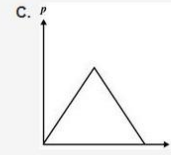
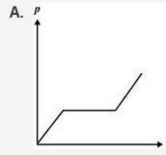
**Story Graphs PRACTICE**

1. Which scenario would *best* match the graph below?

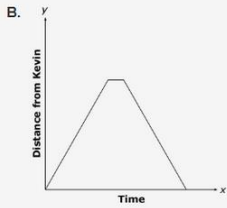
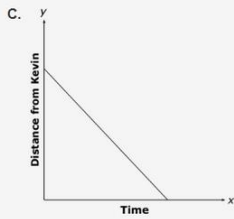
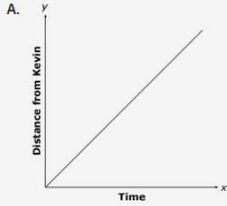


- A. The speed of a skier riding to the top of a mountain and skiing down to the bottom.
- B. The speed of a child going up to the top of a slide, sitting there for a while, and sliding down the other side.
- C. The speed of a driver entering the interstate highway, driving at a constant speed, and then exiting the interstate highway.

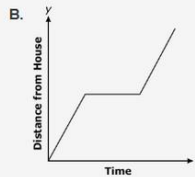
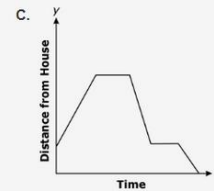
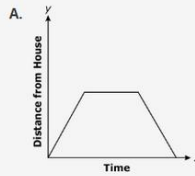
2. In the warm-up phase, the output production of a machine increased at a steady rate. It then began producing at a constant rate. When it neared production goal, it automatically decreased the production rate as it cooled off. Which graph best represents the relationship between the production ( $p$ ) as a function of time ( $t$ )?



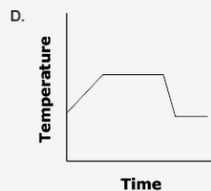
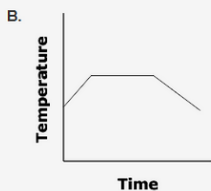
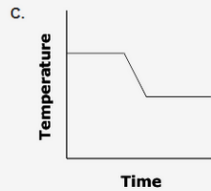
3. Kevin was playing fetch with his dog in a field. Kevin threw a stick. The dog ran to get the stick, paused, and then brought it back to Kevin. Which graph *best* represents the dog's distance from Kevin for this event?



4. Emily went to the beach for the day. Leaving her house, Emily drove to the beach, stayed there for a few hours, then drove home. Which graph *best* represents this scenario?



5. Joey is cooking pasta sauce for his spaghetti. He brings the sauce to a boil and continues to boil for 5 minutes. He then reduces the heat and cooks on low for 20 minutes before serving. Which graph *best* represents the cooking for his sauce?



6. A car accelerates from 0 to 30 miles per hour in 5 seconds with constant acceleration. The car continues to move at 30 miles per hour for the next 45 seconds. Which graph shows this relationship between speed and time?

