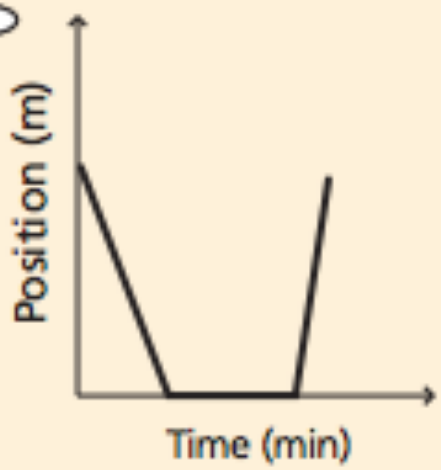
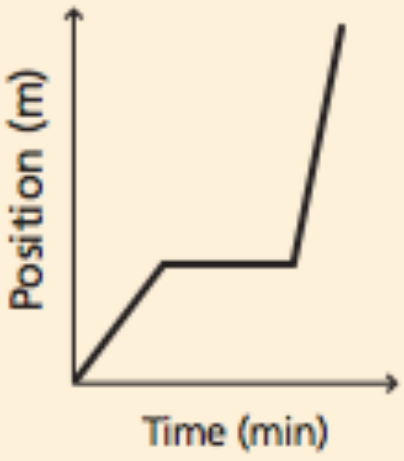
6. A squirrel descends an 8-m tree at a constant speed in 1.5 min. It remains still at the base of the tree for 2.3 min, and then walks toward an acorn on the ground for 0.7 min. A loud noise causes the squirrel to scamper back up the tree in 0.1 min to the exact position on the branch from which it started. Which of the following graphs would accurately represent the squirrel's vertical displacement from the base of the tree?

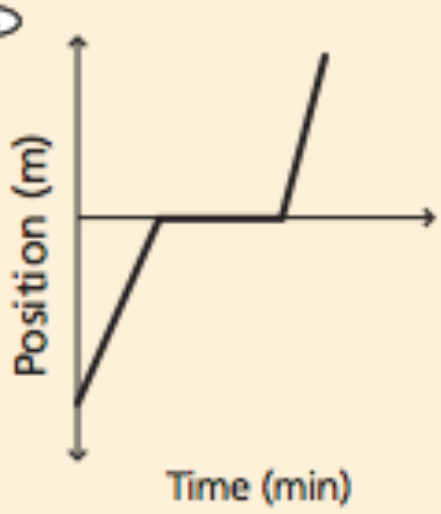
(A)



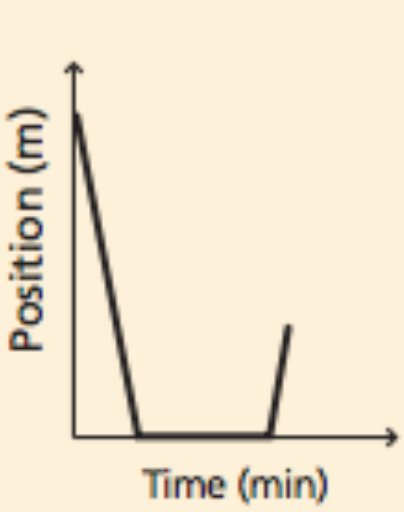
(C)



(B)



(D)



60. **Figure 2-31** shows the position-time graph depicting Jim's movement up and down the aisle at a store. The origin is at one end of the aisle.

a. Write a story describing Jim's movements at the store that would correspond to the motion represented by the graph.

b. When does Jim have a position of 6.0 m?

c. How much time passes between when Jim enters the aisle and when he gets to a position of 12.0 m? What is Jim's average velocity between 37.0 s and 46.0 s?

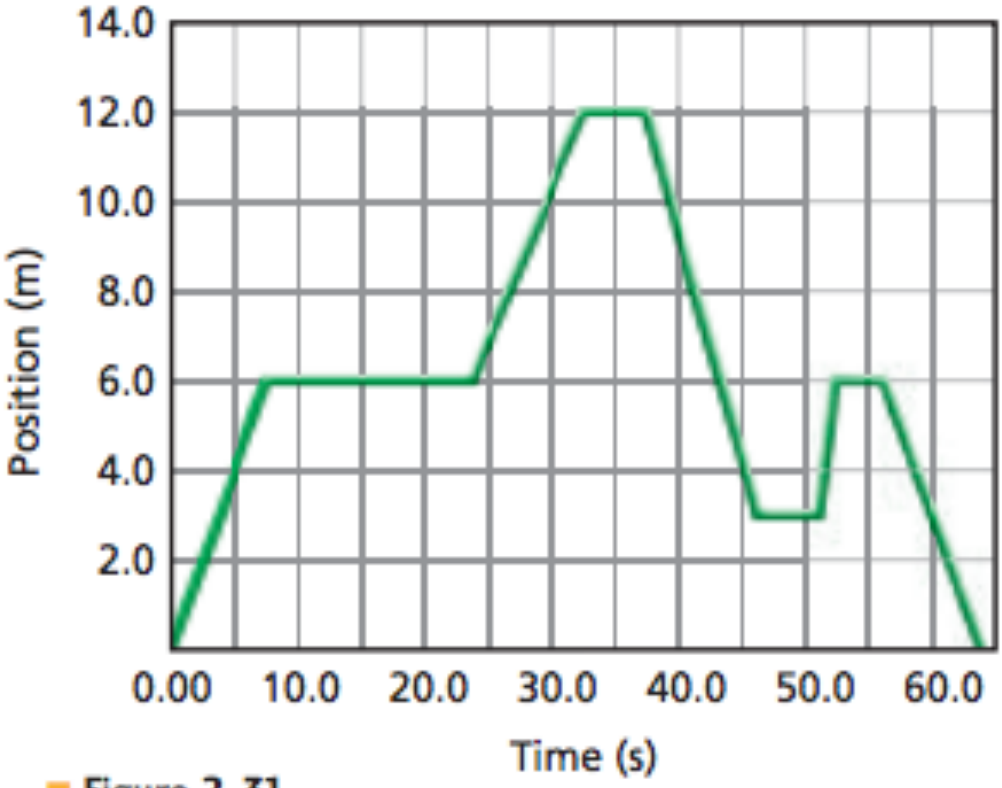


Figure 2-31

For problems 14–17, refer to the figure in Example Problem 2.

14. What event occurred at $t = 0.0$ s?

15. Which runner was ahead at $t = 48.0$ s?

16. When runner A was at 0.0 m, where was runner B?

17. How far apart were runners A and B at $t = 20.0$ s?

18. Juanita goes for a walk. Sometime later, her friend Heather starts to walk after her. Their motions are represented by the position-time graphs in **Figure 2-16.**

a. How long had Juanita been walking when Heather started her walk?

b. Will Heather catch up to Juanita? How can you tell?

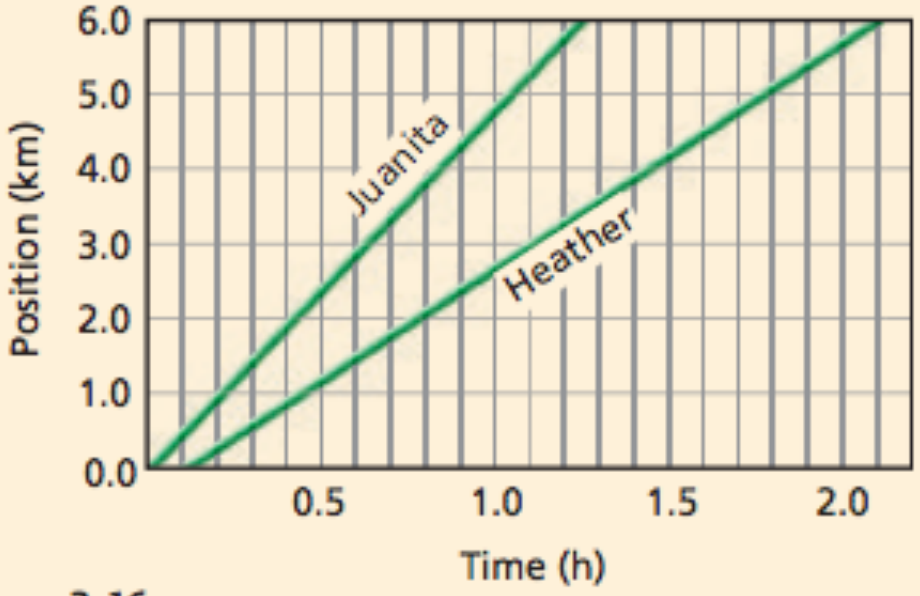


Figure 2-16