

## Acceleration problems

1. Fred is walking at  $1.7 \text{ m/s}$ , he sees a dollar and runs at  $2.5 \text{ m/s}$  in  $1.5$  seconds. What is his acceleration?
2. Winona Ryder is walking through Kmart at  $1.4 \text{ m/s}$ . She screams "beetlejuice" and grabbed 3 pairs of shoes and a plaid skirt and ran out of the store at  $10 \text{ m/s}$ . She took 5 seconds to do this, what is her acceleration?
3. I'm walking  $1.6 \text{ m/s}$  to 7-11 and it started to rain so I sped up to  $2.7 \text{ m/s}$  in  $1.2$  seconds. What is my acceleration?
4. A car is traveling  $45 \text{ m/s}$  and in 2 seconds he speeds up to  $55 \text{ m/s}$ , what is the car's acceleration?
5. BB was waiting a table at  $1.3 \text{ m/s}$ . The people at the table were anxious and made a scene so he sped up to  $2.4 \text{ m/s}$ . He continued to speed up and fell at  $2.9 \text{ m/s}$  23 seconds later. What is his acceleration?
6. Fred was driving  $35 \text{ m/s}$  when he got on the freeway and got up to  $60 \text{ m/s}$  in 3 minutes. What is Fred's acceleration in  $\text{m/s}$ ?
7. A plane starts to take off from a runway at  $70 \text{ km/hr}$ . It takes the plane 30 seconds to get to that speed what is the plane's acceleration?
8. John is running at  $2.4 \text{ m/s}$  on the track when he sees the finish line. He speeds up to  $3.6 \text{ m/s}$  in 2.5 seconds to get to the finish line, what is his acceleration?
9. Josh is walking  $1.9 \text{ m/s}$  in the hall to get to class. He speeds up to  $3.5 \text{ m/s}$  in 1.5 seconds when he hears the bell ring. What is his acceleration?

**Chapter 3**

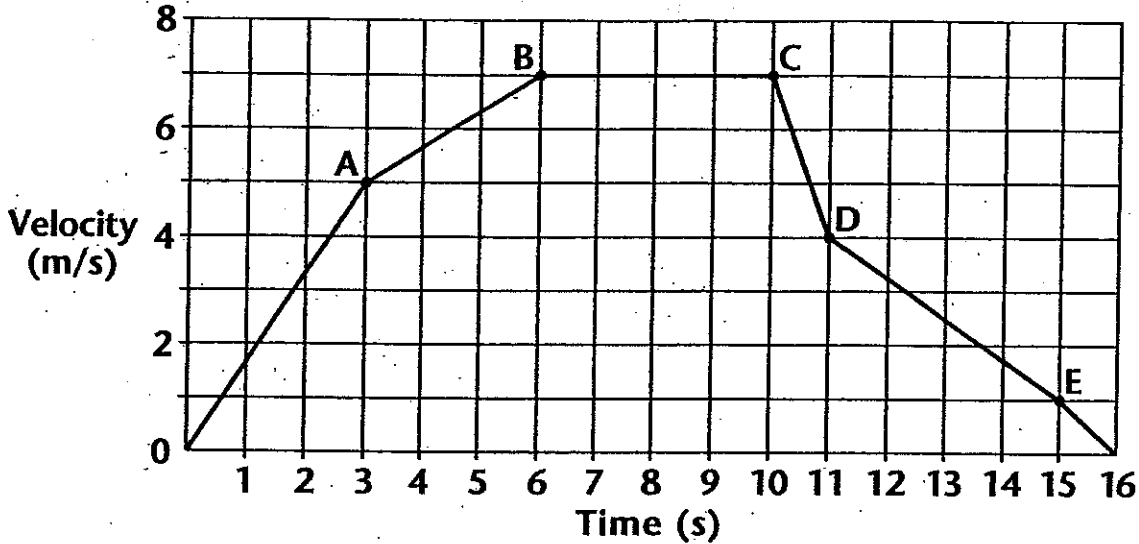
Use with Text Pages 72-75

**ENRICHMENT**

**● Velocity and Acceleration**

**Interpreting Velocity and Acceleration Graphs**

A car traveled through city traffic during rush hour. There was a lot of starting and stopping. The graph below shows its motion for a 16-second interval.



1. Calculate the acceleration between each lettered interval. Remember the measurement of acceleration can be negative.

AB

BC

CD

DE

2. Describe with words what happened to the car during each lettered interval.

AB \_\_\_\_\_

BC \_\_\_\_\_

CD \_\_\_\_\_

DE \_\_\_\_\_