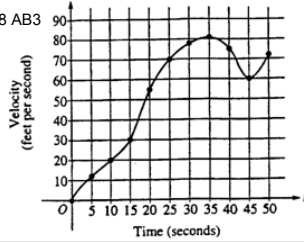


From 1998 AB3



| t (seconds) | $v(t)$ (feet per second) |
|------------------|-----------------------------|
| 0 | 0 |
| 5 | 12 |
| 10 | 20 |
| 15 | 30 |
| 20 | 55 |
| 25 | 70 |
| 30 | 78 |
| 35 | 81 |
| 40 | 75 |
| 45 | 60 |
| 50 | 72 |

The graph of the velocity $v(t)$ in ft/sec, of a car traveling on a straight road, for $0 \leq t \leq 50$, is shown above. A table of values for $v(t)$ at 5 second intervals of time t , is shown to the right of the graph.

- (a) During what intervals of time is the acceleration of the car positive? Give a reason for your answer.
- (b) Find the average acceleration of the car, in ft/sec^2 , over the interval $0 \leq t \leq 50$.
- (c) Find one approximation for the acceleration of the car, in ft/sec^2 , at $t = 40$. Show the computations you used to arrive at your answer.

Sep 20-3:01 PM