

CHAPTER 10
REINFORCEMENT

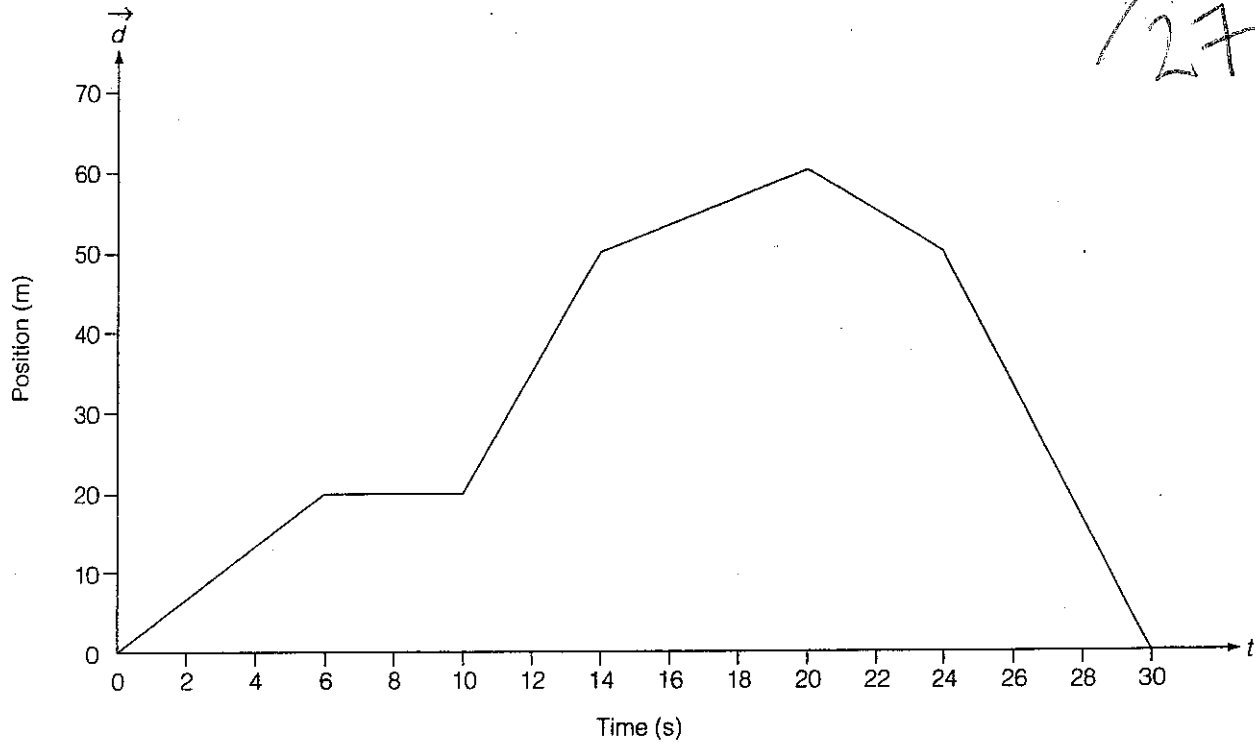
BLM 10-6

Velocity from Position-Time Graphs

Goal • Find velocities from different sections of a position-time graph.

What to Do

Examine the position-time graph below. Then answer the questions that follow.



1. Complete the following table to calculate the velocity for each time interval.

24 x 1/2 mark

Time (s)	Δt (s)	$\Delta \vec{d}$ (m)	\vec{v} (m/s)	Direction of motion (right or left)
0 to 6	6	+20	+3.3	R
6 to 10	4	0	0	
10 to 14	4	+30	+7.5	R
14 to 20	6	+10	+1.7	R
20 to 24	4	-10	-2.5	L
24 to 30	6	-50	-8.3	L

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Velocity from Position-Time Graphs

(continued)

2. Find the average velocity for each time interval in the table below.

Time (s)	Δt (s)	$\Delta \vec{d}$ (m)	\vec{v}_{av} (m/s)
3 to 24	21	+40	+1.9
10 to 26	16	+13	+0.8
14 to 30	16	-50	-3.1

3. Explain how you can tell when the object is at rest, from

(a) the graph

GRAPH IS A STRAIGHT, HORIZONTAL LINE

(b) the table

DISPLACEMENT IS ZERO

4. Explain how you can tell when the object is moving away from its initial position, from

(a) the graph

SLOPE IS POSITIVE

(b) the table

DISPLACEMENT IS POSITIVE

5. Explain how you can tell when the object is moving back, toward its initial position, from

(a) the graph

SLOPE IS NEGATIVE

(b) the table

DISPLACEMENT IS NEGATIVE

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