

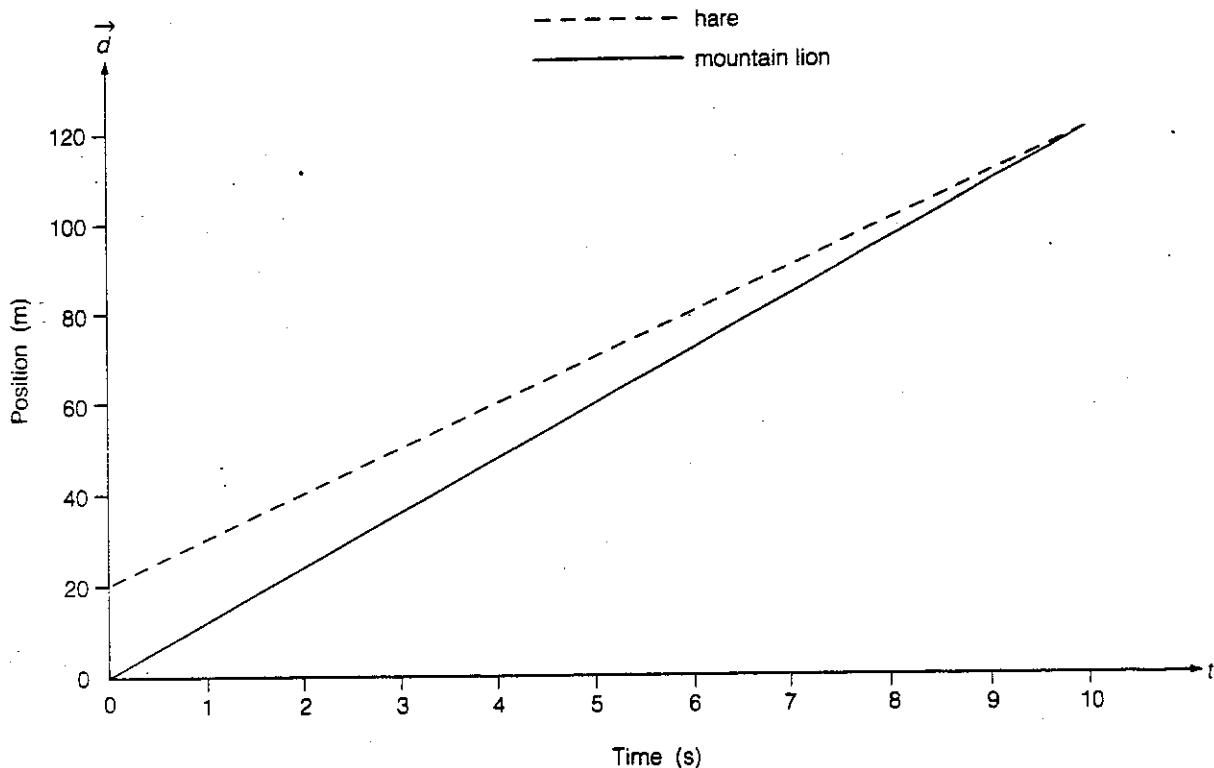
Goal • Investigate uniform motion at different velocities.

Think About It

A mountain lion spots a snowshoe hare, 20 m to the right of its current position, while it is running in the direction of the hare. Will the hare get away?

What to Do

Examine the position-time graph of the mountain lion and hare. Then answer the following questions.



1. Complete the following table for both the mountain lion and the hare during the entire chase.

Animal	t_i	t_f	Δt	\vec{d}_i	\vec{d}_f	$\Delta \vec{d}$	\vec{v}_m
mountain lion	0	10	10	0	120	120	12
snowshoe hare	0	10	10	20	120	100	10

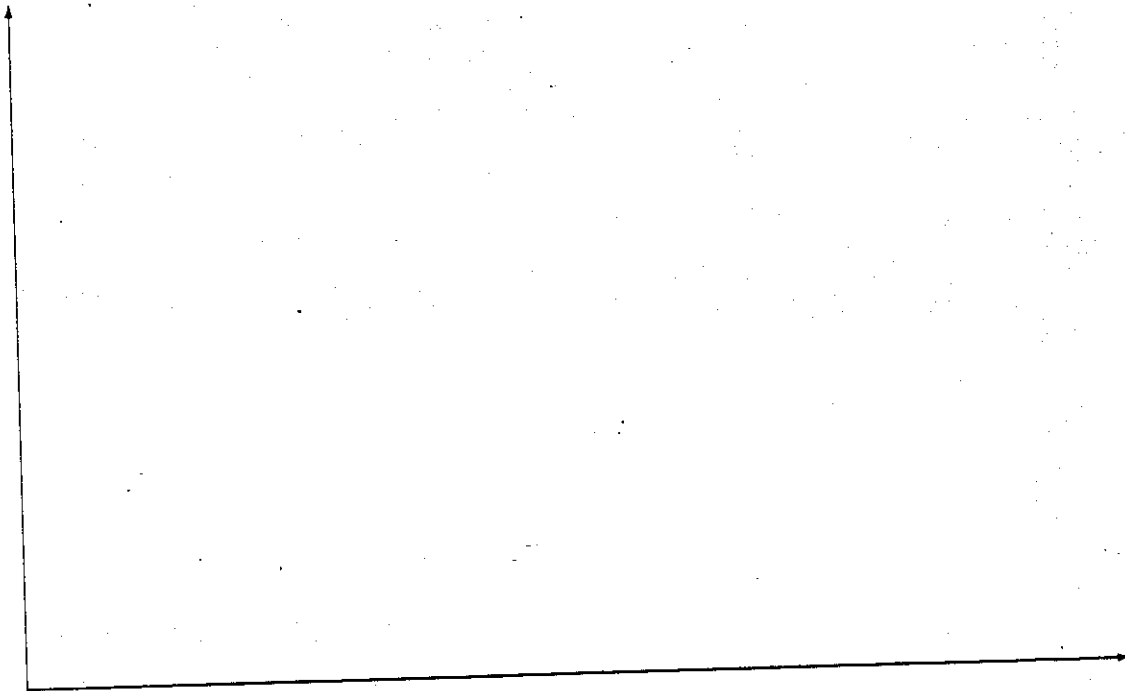
2. (a) Which animal has a head start? HARE
- (b) Which animal is moving faster? How can you tell by looking at the graph?

LION. STEEPER SLOPE

- (c) What is different about the two lines that represent the motion of the animals at 10 s? Explain what this difference means.

They intersect. Lion and Hare have same position.

3. Sketch one velocity-time graph to show the motion of both animals. Use a different colour for each animal. Remember to label the graph and give it a title.



4. How can you tell which animal is moving faster, from the velocity-time graph?

Lion b/c steeper on graph

5. Did the hare get away? Explain.

Probably not since lion caught up to hare at 10 s.

HIND AND THE HORE

