

AFRICAN INSTITUTE FOR MATHEMATICAL SCIENCES SCHOOLS ENRICHMENT CENTRE (AIMSSEC)

AIMING HIGH



The graph shows the distance along a race track for two racing cars as they approach a bend in a race. Copy the table below, take readings from the graph and fill in the table for the first 10 seconds.

How far does each car go in the 3rd second?

How far does each car go in the 6th second?

When does the red car start slowing down for the bend? When does it start increasing its speed as it comes out of the bend?

When does the black car start slowing down for the bend? When does it start increasing its speed as it comes out of the bend?

Describe how the distance between the cars changes.

What is the time delay between the red car reaching points on the track and the black car reaching the same points?

Do you think the black car catches up with the red car? Explain why or why not.

Make a guess based on the graph about where the red car will be and fill in the table for the last two seconds.

Pretend you are a commentator and describe what is happening. When are the cars slowing down and when are they speeding up?

Help

Working as a class, and talking to your partner, should help you to think about the race and to see how the graph tells the story of the race.

Understanding is important. Ask questions. If you are not sure of anything there will be others in the class who are equally unsure and grateful to you for asking.

If you don't understand the reason the first time it is explained, then listen carefully the next time it is explained because you will probably understand it when the explanation is repeated by another learner or by the teacher.



Extension

What they can say about the motion for each of the five coloured graphs.

You might like to label the axes with the time in seconds and the position in metres and describe the motion of 5 people wearing different coloured T-shirts. Are they walking or running?