**Work sheet 2b - Motion and graphs**
**Follow up activities**

In the Motion and graphs Investigation on the CD-ROM you will practise interpreting graphs of displacement, velocity and acceleration against time for an object moving in a straight line. The two examples below are descriptions of straight line motions. In each case sketch displacement-time, velocity-time and acceleration-time graphs for the motion. Your graphs should be sketched as accurately as possible on squared paper. Where possible mark numerical values on the graphs.

Example 1
A cyclist is travelling at a steady speed along a straight road. The cyclist brakes sharply, stops and waits for a few seconds. The cyclist then turns around and cycles back in the opposite direction at half the original speed.

Example 2
A car accelerates steadily from rest along a straight road. After 10 s it is travelling at 15 m/s. It continues to travel at this speed for 20 s when the driver applies the brakes at a red traffic light. The car takes 5.0 s to come to rest. The car waits at the lights for 10 s then pulls away again as the lights change.