

Chapter 2

PRACTICE

ACCELERATION

1. Table F shows the velocity in m/s of different objects at regular intervals of time. Sketch the velocity-time graph for each case and describe the motion.

Table F

Time	0.0 s	1.0 s	2.0 s	3.0 s	4.0 s
Case 1	0.0	+ 4.0	+ 8.0	+ 12.0	+ 16.0
Case 2	+ 24.0	+ 24.0	+ 24.0	+ 24.0	+ 24.0
Case 3	+ 24.0	+ 16.0	+ 8.0	0.0	-8.0
Case 4	+ 2.0	+ 4.0	+ 6.0	+ 8.0	+ 10.0

2. Compare and contrast uniform and non-uniform motion. Include reference to position, velocity, and acceleration.
3. Find the acceleration in each case.
- A car increases its velocity from 0 km/h to 20 km/h in 6 seconds.
 - A train crosses a boulevard at 10 km/h and begins accelerating as it heads out of the city. Thirty minutes later it crosses another road at 60 km/h. What is the average acceleration of the train during this period of time?
 - A truck travelling west at 50 km/h pulls out to pass another vehicle that is moving at a constant velocity. The truck increases its velocity to 60 km/h in 6 seconds.
 - Estimate your own acceleration when starting from rest to your maximum velocity.
4. In each case from question #3, sketch the corresponding position-time graph. First, choose and label an origin and then choose an appropriate scale.