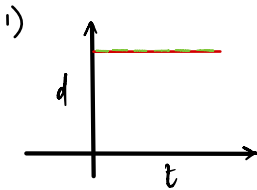


Topic 1.2 Motion



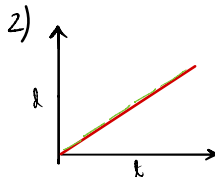
How to interpret Distance-Time graphs

The most important thing is to know that gradient of a distance time curve is the speed



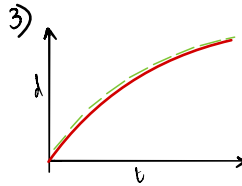
Look at the lines in green, they are tangents to the curves, since the line here is horizontal the gradient is zero, hence speed is zero and so object is stationary

Object at rest



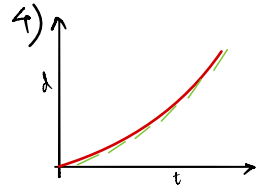
Its a straight inclined line, the gradient is constant and so the speed is constant

Constant speed



You can see how the tangents to the curves fall in gradient as the curve flattens out, its an indication that the speed is reducing and hence its decelerated motion

Decelerated motion
Reducing speed



Again, here the tangents are becoming more and more inclined, their gradient is increasing, so the speed is increasing and hence accelerated motion

Accelerated motion
Increasing speed

Look at how gradient of the curves changes

Changes in gradient can be seen by drawing tangents to the curves at different points and by noticing how inclined the tangents are to the x-axis