

Example 17

A particle moves in a straight line so that its position, x cm, relative to O at time t seconds is given by $x = t^3 - 6t^2 + 5$, $t \geq 0$.

- a** Find its initial position, velocity and acceleration, and hence describe its motion.
- b** Find the times when it is instantaneously at rest and determine its position and acceleration at those times.