

### Question 36133

The position of a particle is  $x(t) = at^2 - bt^3$ , so velocity is  $v = x'(t) = 2at - 3bt^2$  and acceleration is  $a(t) = x''(t) = 2a - 6bt$ .

The acceleration is zero when  $2a - 6bt = 0 \Rightarrow t = \frac{a}{3b}$ .