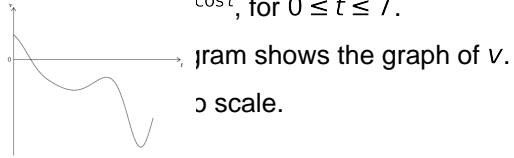


IB Calculus Problem 016

A particle P moves along a straight line. The velocity v in ms^{-1} of P after t seconds is given by $v = \cos t$, for $0 \leq t \leq 7$.



- Find the initial velocity of P .
- Find the maximum velocity of P .
- Write down the number of times the acceleration of P is 0 ms^{-2} .
- Find the acceleration of P when the particle changes direction.
- Find the total distance travelled by P .