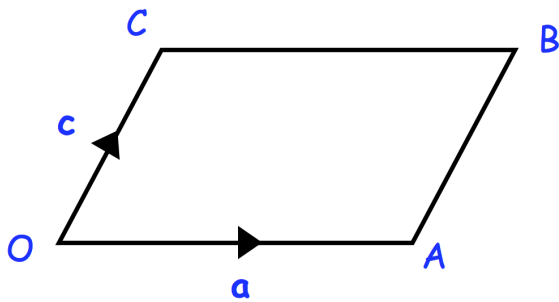


Shown is the first 10 seconds of the journey of a car

Work out an estimate for the acceleration of the car at $t = 1$.

Work out an estimate for the acceleration of the car at $t = 9$.

Write down the coordinates of the minimum point of the curve with equation $y = 2x^2 - 6x + 11$



OACB is a parallelogram

$$\vec{OA} = \mathbf{a} \quad \vec{OC} = \mathbf{c}$$

Y is the midpoint of AC
 OAD is a straight line where
 $OA:AD = m : 1$

Given that

$$\vec{YD} = 7\mathbf{a} - \frac{1}{2}\mathbf{c}$$

Find the value of m