Name: _____ 5-a-day Higher Plus

19th December

Corbettmaths

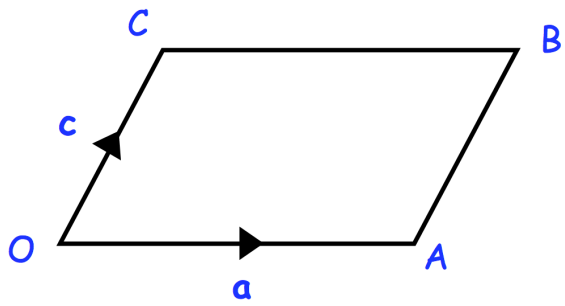
Rationalise the denominator of

$$\frac{3+\sqrt{2}}{\sqrt{3}}$$

The population of a country is 6.4×10^6 to the nearest hundred thousand

The area of country is $8.4 \times 10^4 km^2$ to the nearest $1000km^2$

Calculate the lower bound of the population density.



OABC is a parallelogram

$\overrightarrow{OA} = a \quad \overrightarrow{OC} = c$

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

Given that

$$\overrightarrow{YD} = 5a - \frac{1}{2}c$$

Find the value of m

Solve the simultaneous equations

$y = x^2 + x + 2$
and
$x + 3y = 38$