

**2nd May**

Corbettmaths

At a summer camp, children pick a morning, an afternoon and an evening activity.

There are 4 morning and 7 evening activities to pick from.

Altogether there are 224 different ways to choose their activities.

How many afternoon activities are there?

The  $n$ th term of a sequence is

$$\frac{1 - 3n^2}{9n^2 + 1}$$

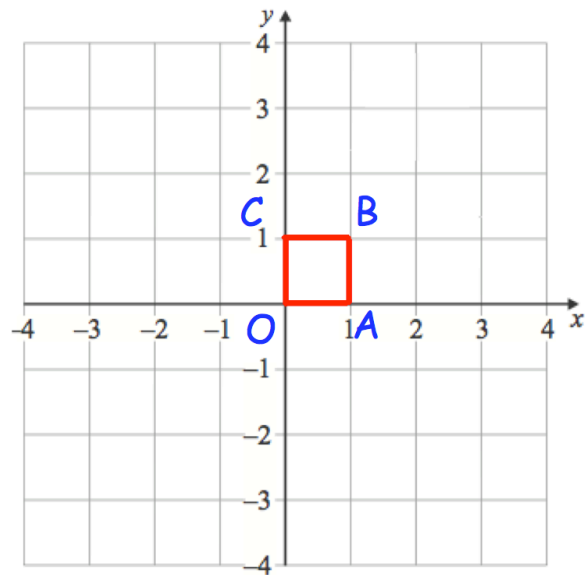
Write down the limiting value of the sequence  $n \rightarrow \infty$

OABC is transformed by the matrix

$$\begin{pmatrix} 0 & -1 \\ -1 & 0 \end{pmatrix}$$

to give OA'B'C'

Draw and label OA'B'C'



Describe the transformation fully.

Solve  $\tan^2\theta - 3\tan\theta = 0$   
for  $0^\circ \leq \theta \leq 360^\circ$