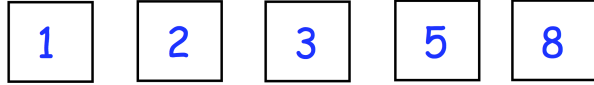


2nd January

Corbettmaths

Chris makes 5-digit numbers using all of the cards below.



How many different numbers less than 50000 can he make?

$$\mathbf{A} = \begin{pmatrix} -1 & 3 \\ 2 & 1 \end{pmatrix} \quad \mathbf{B} = \begin{pmatrix} 2 & -1 \\ -1 & 7 \end{pmatrix}$$

Work out the matrix **BA**

$(x - 5)$ is a factor of
 $x^3 - 6x^2 + 3x + a$

Work out the value of a

A curve has equation
 $y = x^2 + 6x - 3$

Work out the equation of the tangent to the curve $y = x^2 + 6x - 3$ at the point $(1, 4)$