

2D Vectors

$\begin{pmatrix} -3 \\ 3 \end{pmatrix}$	$\begin{pmatrix} 4 \\ -4 \end{pmatrix}$	$\begin{pmatrix} -3 \\ 2 \end{pmatrix}$	$\begin{pmatrix} 2 \\ 2 \end{pmatrix}$	$\begin{pmatrix} 1 \\ 2 \end{pmatrix}$
$\begin{pmatrix} 2 \\ -2 \end{pmatrix}$	$\begin{pmatrix} 1 \\ 3 \end{pmatrix}$	$\begin{pmatrix} 1 \\ -1 \end{pmatrix}$	$\begin{pmatrix} -1 \\ -1 \end{pmatrix}$	$\begin{pmatrix} 3 \\ 2 \end{pmatrix}$
$\begin{pmatrix} 2 \\ 8 \end{pmatrix}$	$\begin{pmatrix} -2 \\ -3 \end{pmatrix}$	$\begin{pmatrix} -1 \\ 3 \end{pmatrix}$	$\begin{pmatrix} 3 \\ 1 \end{pmatrix}$	$\begin{pmatrix} -3 \\ -3 \end{pmatrix}$
$\begin{pmatrix} 1 \\ 9 \end{pmatrix}$	$\begin{pmatrix} 4 \\ -1 \end{pmatrix}$	$\begin{pmatrix} -2 \\ 1 \end{pmatrix}$		

These vectors are parallel.	These vectors are perpendicular.	These vectors have the same length.
This vector has a length of $\sqrt{10}$.	This vector is parallel to $\begin{pmatrix} 3 \\ -2 \end{pmatrix}$	This vector is perpendicular to $\begin{pmatrix} -4 \\ 1 \end{pmatrix}$
This vector joins the points A (1, 7) and B (5, 3).	Vectors a and b such that $\mathbf{a} + \mathbf{b} = \begin{pmatrix} 2 \\ 8 \end{pmatrix}$.	Vectors a , b and c such that $\mathbf{a} - \mathbf{b} = \mathbf{c}$