

Match-Up

3D Vectors

1	The position vector of the point with coordinates $(3, -1, 4)$	A	$\mathbf{i} + \sqrt{3}\mathbf{j} - \mathbf{k}$
2	The vector joining the points $(2, 0, 4)$ and $(5, 1, 8)$	B	$3\mathbf{i} - 2\mathbf{j} + 4\mathbf{k}$
3	The unit vector in the direction of $\mathbf{i} + 2\mathbf{j} - 2\mathbf{k}$	C	$-3\mathbf{i} - \mathbf{j} + 4\mathbf{k}$
4	The vector $\mathbf{a} - 3\mathbf{b}$ where $\mathbf{a} = \mathbf{i} - \sqrt{3}\mathbf{j} - 5\mathbf{k}$ and $\mathbf{b} = -\mathbf{i} - 2\mathbf{k}$	D	$\frac{1}{3}\mathbf{i} + \frac{2}{3}\mathbf{j} + \frac{2}{3}\mathbf{k}$
5	The position vector of the midpoint of $(-2, 1, 1)$ and $(-4, -3, 7)$	E	$\sqrt{3}\mathbf{i} - \mathbf{j}$
6	A vector which is parallel to $-2\mathbf{i} - 4\mathbf{j} - 4\mathbf{k}$	F	$3\mathbf{i} - \mathbf{j} + 4\mathbf{k}$
7	A vector with a magnitude of 5	G	$\frac{1}{3}\mathbf{i} + \frac{2}{3}\mathbf{j} + \frac{1}{3}\mathbf{k}$
8	A vector which is parallel to the vector joining $(2, -3, 6)$ and $(3.5, -4, 8)$	H	$4\mathbf{i} - \sqrt{3}\mathbf{j} + \mathbf{k}$
9	A vector which makes an angle of 30° with the x -axis	I	$3\mathbf{i} + 4\mathbf{k}$
10	A vector with a magnitude of $\sqrt{5}$	J	$3\mathbf{i} + \mathbf{j} + 4\mathbf{k}$
11	The position vector of the point which splits the line that joins $(0, 1, 0)$ and $(1, 0, 1)$ in the ratio $1 : 2$	K	$2\sqrt{3}\mathbf{i} + 2\mathbf{j} + 4\mathbf{k}$
12	A vector with a magnitude which is twice that of the vector $-2\mathbf{j} + 2\mathbf{k}$	L	$\frac{1}{3}\mathbf{i} + \frac{2}{3}\mathbf{j} - \frac{2}{3}\mathbf{k}$