

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

A	$i + \sqrt{3}j - k$
B	$3i - 2j + 4k$
C	$-3i - j + 4k$
D	$\frac{1}{3}i + \frac{2}{3}j + \frac{2}{3}k$
E	$\sqrt{3}i - j$
F	$3i - j + 4k$
G	$\frac{1}{3}i + \frac{2}{3}j + \frac{1}{3}k$
H	$4i - \sqrt{3}j + k$
I	$3i + 4k$
J	$3i + j + 4k$
K	$2\sqrt{3}i + 2j + 4k$
L	$\frac{1}{3}i + \frac{2}{3}j - \frac{2}{3}k$

[illegible]