

Fill in the Blanks

Modelling with Vectors

Displacement (m)	Distance (m)	Time (s)	Velocity (ms ⁻¹)	Speed (ms ⁻¹)	Bearing
$25\mathbf{i} + 60\mathbf{j}$	65	5	$5\mathbf{i} + 12\mathbf{j}$	13	022.6°
$8\mathbf{i} - 6\mathbf{j}$	10	2	$4\mathbf{i} - 3\mathbf{j}$	5	126.9°
$-6\mathbf{i} - 2\mathbf{j}$	$2\sqrt{10}$	4	$-\frac{3}{2}\mathbf{i} - \frac{1}{2}\mathbf{j}$	$\frac{1}{2}\sqrt{10}$	251.6°
$-2\mathbf{i} + 2\mathbf{j}$	$2\sqrt{2}$	0.5	$-4\mathbf{i} + 4\mathbf{j}$	$4\sqrt{2}$	315°
$3\sqrt{3}\mathbf{i} + 4\sqrt{3}\mathbf{j}$	$5\sqrt{3}$	0.25	$12\sqrt{3}\mathbf{i} + 16\sqrt{3}\mathbf{j}$	$20\sqrt{3}$	036.9°
$10\sqrt{3}\mathbf{i} - 2\sqrt{6}\mathbf{j}$	18	6	$\frac{5\sqrt{3}}{3}\mathbf{i} - \frac{\sqrt{6}}{3}\mathbf{j}$	3	105.8°
$-6\sqrt{3}\mathbf{i} + 6\mathbf{j}$	12	12	$-\frac{\sqrt{3}}{2}\mathbf{i} + \frac{1}{2}\mathbf{j}$	1	300°
$-3\sqrt{2}\mathbf{i} - 3\sqrt{2}\mathbf{j}$	6	1.5	$-2\sqrt{2}\mathbf{i} - 2\sqrt{2}\mathbf{j}$	4	225°
$\frac{15}{2}\mathbf{i} - \frac{15\sqrt{3}}{2}\mathbf{j}$	15	3	$\frac{5}{2}\mathbf{i} - \frac{5\sqrt{3}}{2}\mathbf{j}$	5	150°