

Fill in the Blanks

Vector Forces and Acceleration

Force F_1	Force F_2	Force F_3	Resultant Force F (N)	Mass (kg)	Acceleration Vector (ms^{-2})	Acceleration Magnitude (ms^{-2})
$4i - j$	$4i + 2j$	$-2i - 9j$	$6i - 8j$	2 kg	$3i - 4j$	5
$-2i + \frac{7}{2}j$	$\frac{3}{2}i - 4j$	$2i - j$		0.5 kg		
$\begin{pmatrix} -15 \\ 0 \end{pmatrix}$	$\begin{pmatrix} 4 \\ 11 \end{pmatrix}$	$\begin{pmatrix} -25 \\ 4 \end{pmatrix}$		3 kg		
$8i + \frac{1}{2}j$	$-11j$	$-2i + \frac{1}{2}j$			$\frac{3}{2}i - \frac{5}{2}j$	
$\begin{pmatrix} -3 \\ 13 \end{pmatrix}$	$\begin{pmatrix} 1 \\ 3 \end{pmatrix}$		$\begin{pmatrix} -15 \\ 30 \end{pmatrix}$		$\begin{pmatrix} -3 \\ 6 \end{pmatrix}$	
	$5\sqrt{3}i - 2j$	$-3\sqrt{3}i + 3j$	$\sqrt{3}i + j$		$2\sqrt{3}i + 2j$	
$\frac{7}{2}i + 2j$		$-2i + 3j$		0.25 kg	$-4i + 10j$	
$-2i + 7j$	$4i - 9j$		$6i - 12j$			$\sqrt{20}$
	$\begin{pmatrix} 0 \\ -1 \end{pmatrix}$	$\begin{pmatrix} -3 \\ 8 \end{pmatrix}$	$\begin{pmatrix} -6 \\ 12 \end{pmatrix}$			$\sqrt{5}$
$\frac{2}{3}i - 2j$	$\frac{5}{3}i + \frac{1}{3}j$	$\frac{2}{3}i - \frac{4}{3}j$				$6\sqrt{2}$