

Fill in the Blanks

Resultant Forces and Equilibrium

Force F_1	Force F_2	Force F_3	Resultant Force F	Equilibrium (Yes/No)	Magnitude of F	Angle F makes with $+x$ -axis
$4i + 2j$	$-2i + 3j$	$-5i - j$	$-3i + 4j$	No	5	126.9°
$-3i - 5j$	$2i - j$	$7i + 3j$	$6i - 3j$	No	$3\sqrt{5}$	26.6°
$-i + 10j$	$4i - 5j$	$-3i - 5j$	$0i + 0j$	Yes	—	—
$\frac{3}{2}i - \frac{5}{2}j$	$4i + \frac{3}{4}j$	$-\frac{5}{4}i + \frac{1}{2}j$	$\frac{17}{4}i - \frac{5}{4}j$	No	4.43	16.4°
$-3j$	$3\sqrt{3}i + 6j$	$-5\sqrt{3}i - j$	$-2\sqrt{3}i + 2j$	No	4	150°
$2i - 4j$	$2i + 11j$	$i + 5j$	$5i + 12j$	No	13	67.4°
$-2i + j$	$-3i - 14j$	$13i + 5j$	$8i - 8j$	No	$8\sqrt{2}$	45°
$\frac{6}{5}i - 3j$	$-\frac{3}{5}i + \frac{5}{2}j$	$-\frac{3}{5}i + \frac{1}{2}j$	$0i + 0j$	Yes	—	—
$-4i + 8j$	$7i - 3j$	$-3i - 5j$	$0i + 0j$	Yes	—	—
$-6i - 2j$	$2i + 3j$	$3j$	$-4i + 4j$	No	$4\sqrt{2}$	135°
$-i + \sqrt{3}j$	$-2i - 7\sqrt{3}j$	$7i + 2\sqrt{3}j$	$4i - 4\sqrt{3}j$	No	8	60°