

Adding Vectors

1. Two forces act on an object: a 10N force acts downwards and a 20N force acts to the right.
Draw a diagram, and calculate the magnitude and direction of the resultant force.
2. A small aeroplane experiences four forces: 8kN downwards (its weight), 10kN upwards (lift), 3kN to the left (thrust from its engine) and 2kN to the right (drag).
Draw a diagram and find the magnitude and direction of the resultant force on the aeroplane.
3. An object experiences two forces, and the resultant force on the object is 9N to the right.
One of the forces is 12N downwards. What is the magnitude and direction of the other force that acts on the object?