



Scalars and Vectors

Checklist statement



I can explain the difference between scalar and vector quantities. ☐

I can identify scalars and vectors, including velocity and speed, mass, force and weight, acceleration, and displacement and distance. ☐

I can add vectors by calculation for two vectors at right angles. ☐

I can add vectors using scale drawings, including vectors at angles other than 90° . ☐

I can resolve a vector into two perpendicular components. ☐

I can resolve forces into components parallel and perpendicular to an inclined plane. ☐

I can solve problems using resolved forces or by using a closed triangle of forces. ☐

I can state the conditions for equilibrium for two or three coplanar forces acting at a point. ☐

I can explain equilibrium in the context of an object at rest or moving with constant velocity. ☐

Moments

Checklist statement

✓

I can define the moment of a force about a point.

☐

I can apply the moment equation (moment = force \times perpendicular distance), define all terms and know their standard units.

☐

I can explain what is meant by a couple as a pair of equal and opposite coplanar forces.

☐

I can apply the moment of a couple equation (moment = force \times perpendicular distance between the lines of action), define all terms and know their standard units.

☐

I can state and apply the principle of moments.

☐

I can define the centre of mass of an object.

☐

I know that the centre of mass of a uniform regular solid is at its geometric centre.

☐