

Section 2: Moments of forces at an angle

Crucial points

1. **Always draw a diagram**

If you try to work without a diagram, you are very likely to make mistakes with signs, or to miss out forces. Make sure that you show angles clearly on your diagram.

2. **Make sure that you get the direction of moments right**

Remember that anticlockwise is considered to be positive and clockwise negative. Always draw a clear force diagram and use it to consider the direction of each force.

3. **Remember to include reaction forces at a support or hinge in the force diagram**

These have no effect when you take moments about the support or hinge, but you need to take them into account when you resolve forces or take moments about a different point.

4. **Work out a strategy to solve equilibrium problems**

Think about which unknown quantities you need to find, and look for ways of resolving and / or taking moments that will allow you to find them as efficiently as possible (ideally without having to solve simultaneous equations, although this may sometimes be unavoidable!)