**12C Modelling with Vectors**

1. , , and are the points , , and respectively.
2. Find and , giving your answers in the form
3. Show that the lines and are parallel and that
4. Hence, describe the quadrilateral
5. , and are the points , and respectively. Find the coordinates of a point such that forms a parallelogram.
6. Given that:

Find the values of , and .

1. The diagram shows a cuboid whose vertices are , , , , , , and . Vectors , and are the position vectors of the vertices , and respectively. Prove that diagonals and bisect each other.

