## Further Vectors - 2022 GCE Pure Core 2 Further Math A Y541

## 1. June/2022/Paper\_ Y541/01/No.10

The coordinates of the points A and B are (3, -2, -1) and (13, 10, 9) respectively.

- The plane  $\Pi_A$  contains A and the plane  $\Pi_B$  contains B.
- The planes  $\prod_A$  and  $\prod_B$  are parallel.
- The x and y components of any normal to plane  $\prod_A$  are equal.
- The shortest distance between  $\prod_A$  and  $\prod_B$  is 2.

There are two possible solution planes for  $\Pi_A$  which satisfy the above conditions.

Determine the acute angle between these two possible solution planes.

[8]