

Example 3 - Pentagon Task

The pentagon **ABCDE** has vertices **A** (-3, 3), **B** (-2, 11), **C** (6, 11), **D** (11, 9) and **E**(7,-1).

- Use coordinate geometry methods to investigate the properties of pentagon **ABCDE**.
Explain your reasoning.

- The midpoint, **M**, of AE can be connected to any vertex.

Use coordinate geometry methods to investigate this new situation.
Consider the line(s) originating from M and the geometric shape(s) that are formed.

The previous working, from the pentagon ABCDE, does not need to be repeated.

**The quality of your discussion and reasoning will determine your overall grade.
Show your calculations. Use appropriate mathematical statements.
Clearly communicate your strategy and method at each stage of your solution.**