

Year 10 Set 1

- 1) A ship sails from port on a heading of 050° for 8km. It then changes course to a bearing of 130° for 2km until a lighthouse is reached.
 - a) sketch the journey
 - b) Calculate the direct line distance from the port to the lighthouse.
 - c) If the ship sailed directly from port to the lighthouse on what bearing would it travel?

- 2) A yacht travels from a harbour on a bearing of 285° for 6 miles. It then changes to a bearing of 175° for 10 miles until it reaches a buoy.
 - a) sketch the journey
 - b) calculate the direct line distance from the harbour to the buoy.
 - c) If the yacht travelled directly from the harbour to the buoy, instead of the 2 stage journey, at a speed of 22mph, calculate how long the journey takes.

- 3) A boat travels from a quay on a bearing of 107° for 20 km. It then changes course to a heading of 206° for 5km, until it reaches a yacht.
 - a) Sketch the journey
 - b) Calculate the direct line distance from the quay to the yacht
 - c) The boat returns from the yacht to the quay in a direct line. On what bearing does it need to travel?

4) An aircraft flies on a bearing of 295° from Airport A for 200 miles. It then changes course to a heading of 205° for 300 miles until it reaches Airport B.

- Sketch the journey
- The aircraft makes the return journey in a direct line from Airport B to Airport A. How far is the return journey?
- On what bearing does the aircraft travel to make this return journey?

5) A helicopter flies on a heading of 107° for 50 miles from a heliport. It then changes course travelling 80 miles on a bearing of 038° finally reaching a hospital.

- Sketch the journey
- What is the direct line distance from the heliport to the hospital?
- The helicopter travels directly back from the hospital to the heliport at a speed of 110 mph. Calculate to the nearest minute, how long this return journey takes.