

# Bearings and Navigation Problems

Use this worksheet after reading the lesson to practise the key ideas and prove you can meet the success criteria.

Name \_\_\_\_\_  
 Date \_\_\_\_\_  
 Class \_\_\_\_\_

## 1. Key Ideas

Draw a North line at every point — not just the first one. Every bearing is measured clockwise from North at that specific location. Get the diagram right and the trig reduces to a standard right-angled triangle problem.

- True bearing: 3-digit clockwise angle from North
- Why North lines at every point are parallel — and why this matters

## 2. Success Criteria

By the end, you should be able to:

- True bearing: 3-digit clockwise angle from North
- Compass bearing format: N/S [angle] E/W
- Back bearing = add or subtract  $180^\circ$

## 3. Key Terms

### Formula

A rule showing the relationship between variables using symbols.

### Substitution

Replacing variables with their known values in an equation.

### Unit Conversion

Changing a measurement from one unit to another.

### Capacity

The amount of liquid a container can hold, measured in litres or millilitres.

### Perimeter

The total distance around the outside of a shape.

### Area

The amount of space inside a two-dimensional shape.

## 4. Activity: Build the Lesson Map

Use the lesson to complete the table. Keep answers brief but specific.

Prompt	Your answer
Main concept	
Important example	
Common mistake to avoid	
How this links to the next lesson	

## 5. Short Answer Questions

1. Explain this lesson goal in your own words: "True bearing: 3-digit clockwise angle from North". Use one specific example from the lesson.

**BAND 3** **2 MARKS**

---

---

---

---

2. Apply this idea to a new example: "Compass bearing format: N/S [angle] E/W". Show your reasoning clearly.

**BAND 4** **3 MARKS**

---

---

---

---

3. Analyse why this idea matters for understanding Bearings and Navigation Problems: "Back bearing = add or subtract  $180^\circ$ ".

**BAND 5** **4 MARKS**

---

---

---

---

---

## 6. Extend: Apply the Idea

BAND 5/6

5 MARKS

**A student gives a memorised answer about Bearings and Navigation Problems but does not use evidence or reasoning.**

Improve the answer by writing a stronger response that uses accurate terminology, a relevant example and a clear explanation.

---

---

---

---

---

---

---

## 7. Multiple Choice

1. What is the best first step when answering a question about Bearings and Navigation Problems?

- A. Identify the key concept being tested
- B. Write every fact from memory
- C. Ignore the command word
- D. Skip examples and evidence

2. Which answer would show stronger understanding of Bearings and Navigation Problems?

- A. An answer with accurate terms and reasoning
- B. A copied definition only
- C. A single-word response
- D. An answer with no example

3. What should you do if a question asks you to explain?

- A. Link the idea to a reason or cause
- B. List unrelated facts
- C. Only draw a diagram
- D. Write the shortest possible answer

## 8. Success Criteria Proof

Finish with evidence that you can do each success criterion.

### SUCCESS CRITERION 1

Prove that you can: True bearing: 3-digit clockwise angle from North

**BAND 3** **2 MARKS**

---

---

---

---

### SUCCESS CRITERION 2

Prove that you can: Compass bearing format: N/S [angle] E/W

**BAND 4** **3 MARKS**

---

---

---

---

### SUCCESS CRITERION 3

Prove that you can: Back bearing = add or subtract  $180^\circ$

**BAND 5** **4 MARKS**

---

---

---

---

One thing I still need help with:

---

---