Bearings

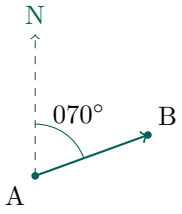
GCSE Mathematics • **Foundation Tier** • Grades 4–6 • Non-calculator

WORKED SOLUTIONS

Name: _____ worked example _____ Class: _____ Total: ___ 56 ___ / 56

Show all your working. Marks are given for correct method as well as the final answer.

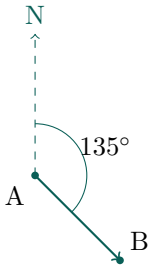
1. Write down the bearing of B from A. **[1 mark]**



measured clockwise from north
bearings ALWAYS have three figures

Answer: _____ 070° _____

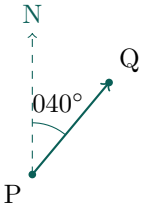
2. Write down the bearing of B from A. **[1 mark]**



clockwise from north

Answer: _____ 135° _____

3. Write down the bearing of Q from P. **[1 mark]**



40 needs a leading zero

Answer: _____ 040° _____

4. Write down the three-figure bearing for due east. **[1 mark]**

a quarter turn clockwise from north

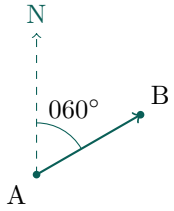
Answer: _____ 090° _____

5. Write down the three-figure bearing for due south-west. **[2 marks]**

south is 180°, west is 270°
halfway between: 225°

Answer: 225°

6. The bearing of B from A is 060°. Work out the bearing of A from B. **[2 marks]**



a back bearing: add 180
60 + 180 = 240°

Answer: 240°

7. The bearing of Y from X is 250°. Work out the bearing of X from Y. **[2 marks]**

250 + 180 = 430
430 is more than 360, so subtract 360
a bearing is never more than 360
= 070°

Answer: 070°

8. The bearing of B from A is 115°. Work out the bearing of A from B. **[2 marks]**

115 + 180 = 295°

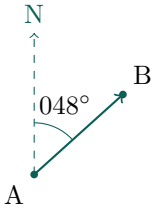
Answer: 295°

9. The bearing of D from C is 310°. Work out the bearing of C from D. **[3 marks]**

310 − 180 = 130
if it is over 180 already, subtract instead

Answer: 130°

10. The bearing of B from A is 048°. Work out the angle between AB and due east. **[3 marks]**



east is 090°
90 − 48 = 42°

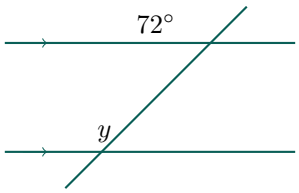
Answer: 42°

11. A ship sails on a bearing of 125°. Work out the angle turned to head due south. **[3 marks]**

south is 180°
180 − 125 = 55°

Answer: 55°

12. The north lines at A and B are parallel. The bearing of B from A is 072°. Work out the angle marked y at B. **[3 marks]**



north lines are parallel
co-interior angles add to 180
180 − 72 = 108°

Answer: 108°

13. A plane flies on a bearing of 200° then turns 90° clockwise. Work out its new bearing. **[2 marks]**

200 + 90 = 290°

Answer: 290°

14. A walker heads on a bearing of 340° then turns 50° clockwise. Work out the new bearing. **[3 marks]**

340 + 50 = 390
390 − 360 = 030°

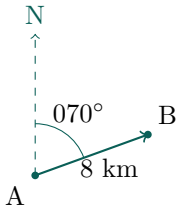
Answer: 030°

15. Explain why a bearing of 000° and a bearing of 360° point the same way. **[2 marks]**

360° is a full turn back to north

Answer: both are due north

16. A boat sails 8 km on a bearing of 070°.



(a) Write down the bearing of the start from the finish. **[2 marks]**

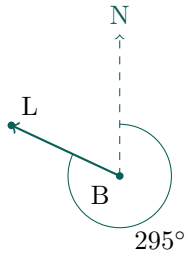
70 + 180
= 250°

(b) The boat then sails due south. Work out the angle it turns through. **[3 marks]**

from 070° round to 180°
180 − 70 = 110° clockwise

Answer: 250° ; 110°

17. The bearing of a lighthouse L from a boat B is 295°.



(a) Work out the bearing of B from L. **[2 marks]**

295 − 180
= 115°

(b) Work out the angle between BL and due west. **[3 marks]**

west is 270°
295 − 270 = 25°

Answer: 115° ; 25°

18. A plane flies from A to B on a bearing of 048°, then from B to C on a bearing of 138°.

(a) Work out the angle ABC. **[4 marks]**

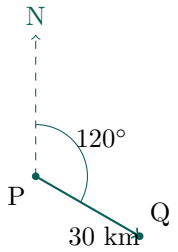
bearing of A from B = 048 + 180 = 228°
bearing of C from B = 138°
angle ABC = 228 − 138
= 90°

(b) Write down what kind of angle ABC is. **[1 mark]**

a right angle

Answer: 90° ; a right angle

19. A ship leaves port P on a bearing of 120° and sails 30 km to Q.



(a) Write down the bearing of P from Q. **[2 marks]**

120 + 180
= 300°

(b) On a 1:500 000 map, work out how far apart they are drawn, in centimetres. **[3 marks]**

30 km = 3 000 000 cm
3 000 000 ÷ 500 000
= 6 cm

Answer: 300° ; 6 cm

20. Three towns lie so that B is due east of A, and the bearing of C from A is 035°.

(a) Work out the angle BAC. **[3 marks]**

AB points due east = 090°
AC points 035°
90 − 35 = 55°

(b) The bearing of C from B is 305°. Work out the bearing of B from C. **[2 marks]**

305 − 180
= 125°

Answer: 55° ; 125°

Free to print and use at home or in class. Please do not re-host or sell. Written by Hampstead Tuition Centre from the published exam specifications.