



ACHIEVE ACADEMY

GCSE Maths — Foundation Tier

Constructions, Loci & Bearings · Practice Booklet

NAME: _____

CLASS: _____

DATE: _____

☐ Developing

☒ Secure

☐ Greater Depth

Answer every question in the working space provided. Method marks are available for correct working even if the final answer is wrong. Check the time allowed with your tutor before you start.

Constructions, Loci & Bearings

Total marks available: 75

● Constructions, Loci & Bearings

✓145°

Q1 · ● Developing · 2 marks

METHOD

Bearing of C from A = $110^\circ + 35^\circ = 145^\circ$

✓040°

Q2 · ● Developing · 2 marks

METHOD

Bearing of C from A = $030^\circ + 10^\circ = 040^\circ$

✓165°

Q3 · ● Developing · 2 marks

METHOD

Bearing of C from A = $140^\circ + 25^\circ = 165^\circ$

✓170°

Q4 · ● Developing · 2 marks

METHOD

Bearing of C from A = $140^\circ + 30^\circ = 170^\circ$

✓20°

Q5 · ● Developing · 2 marks

METHOD

Turn = $035^\circ - 015^\circ = 20^\circ$

✓25°

Q6 · ● Developing · 2 marks

METHOD

Turn = $075^\circ - 050^\circ = 25^\circ$

✓105°

Q7 · ● Developing · 2 marks

METHOD

Bearing of C from A = $095^\circ + 10^\circ = 105^\circ$

✓150°

Q8 · ● Developing · 2 marks

METHOD

Bearing of C from A = $110^\circ + 40^\circ = 150^\circ$

✓165°

Q9 · ● Developing · 2 marks

METHOD

Bearing of C from A = $125^\circ + 40^\circ = 165^\circ$

✓075°

Q10 · ● Developing · 2 marks

METHOD

Bearing of C from A = $030^\circ + 45^\circ = 075^\circ$

✓315°

Q11 · ● Secure · 2 marks

METHOD

A full turn is 360° ; turning back towards west: $360 - 45 = 315^\circ$
Bearing = 315°

✓315°

Q12 · ● Secure · 2 marks

METHOD

Measure clockwise from North: north-west is 315° from North
Bearing = 315°

✓145°

Q13 · ● Secure · 3 marks

METHOD

Since the bearing is 180° or more, subtract 180° (N at A and N at B are parallel; alternate angles)

$$\text{Bearing of A from B} = 325^\circ - 180^\circ = 145^\circ$$

✓120°

Q14 · ● Secure · 3 marks

METHOD

Since the bearing is 180° or more, subtract 180° (N at A and N at B are parallel; alternate angles)

$$\text{Bearing of A from B} = 300^\circ - 180^\circ = 120^\circ$$

✓085°

Q15 · ● Secure · 3 marks

METHOD

Since the bearing is 180° or more, subtract 180° (N at A and N at B are parallel; alternate angles)

$$\text{Bearing of A from B} = 265^\circ - 180^\circ = 085^\circ$$

✓110°

Q16 · ● Secure · 2 marks

METHOD

South is 180° ; turning back towards east: $180 - 70 = 110^\circ$

$$\text{Bearing} = 110^\circ$$

✓210°

Q17 · ● Secure · 3 marks

METHOD

Since the bearing is less than 180° , add 180° (N at A and N at B are parallel; alternate angles)

$$\text{Bearing of A from B} = 030^\circ + 180^\circ = 210^\circ$$

✓250°

Q18 · ● Secure · 2 marks

METHOD

South is 180° ; turning on towards west: $180 + 70 = 250^\circ$

Bearing = 250°

✓130°

Q19 · ● Secure · 3 marks

METHOD

Since the bearing is 180° or more, subtract 180° (N at A and N at B are parallel; alternate angles)

Bearing of A from B = $310^\circ - 180^\circ = 130^\circ$

✓325°

Q20 · ● Secure · 2 marks

METHOD

A full turn is 360° ; turning back towards west: $360 - 35 = 325^\circ$

Bearing = 325°

✓150 km

Q21 · ● Greater Depth · 3 marks

METHOD

Real distance = $15 \times 10 = 150$ km

✓14 cm

Q22 · ● Greater Depth · 3 marks

METHOD

Map distance = $140 \div 10 = 14$ cm

✓15 cm

Q23 · ● Greater Depth · 3 marks

METHOD

Map distance = $150 \div 10 = 15$ cm

✓11 cm

Q24 · ● Greater Depth · 3 marks

METHOD

Map distance = $22 \div 2 = 11$ cm

✓10 cm

Q25 · ● Greater Depth · 3 marks

METHOD

Map distance = $40 \div 4 = 10$ cm

✓5 cm

Q26 · ● Greater Depth · 3 marks

METHOD

Map distance = $10 \div 2 = 5$ cm

✓35 km

Q27 · ● Greater Depth · 3 marks

METHOD

Real distance = $14 \times 2.5 = 35$ km

✓6 cm

Q28 · ● Greater Depth · 3 marks

METHOD

Map distance = $30 \div 5 = 6$ cm

✓100 km

Q29 · ● Greater Depth · 3 marks

METHOD

Real distance = $10 \times 10 = 100$ km

✓12 km

Q30 · ● Greater Depth · 3 marks

METHOD

Real distance = $8 \times 1.5 = 12$ km