

Geometry checkpoint and feedback

Pearson Edexcel GCSE Mathematics 1MA1 • L032
Foundation and Higher • 60 minutes • Lesson resources

REACH FOR THE STAR | GCSE MATHEMATICS

Use independent geometry evidence to identify misconceptions, complete a targeted repair and demonstrate transfer.

Use a non-calculator first attempt. In the practical repair, a calculator may check unit conversions; assess geometric reasoning and drawing separately.

Follow the task-specific calculator guidance below. Write on the lines or replace them with typed answers. Attempt before reading intentional practice feedback.

Connect & Check

Diagnostic: evidence used to choose teaching. Justification: a mathematical reason. Transfer: use a method in a different question. Check: verify against the original conditions.

R1

Find a co-interior partner of 118° on parallel lines.

R2

Reflect (5,1) in $x=2$.

R3

At scale 1:50 000, convert 6 cm to km.

Share | In pairs, predict the first step for this problem: A correct number with a wrong reason does not establish understanding. Angle errors may concern the total or the relationship; transformation errors may concern the centre or direction. Compare your reasons before using the worked model.

Present through worked examples

A correct number with a wrong reason does not establish understanding. Angle errors may concern the total or the relationship; transformation errors may concern the centre or direction; scale errors may concern units. Identify the first decision that failed, repair it and test with a fresh item after a delay.

D1

Model repair: co-interior 130° leaves 50° , not 130° . Now find the partner of 107° .

D2

Model repair: reflect $(4,2)$ in $x=1$ gives $(-2,2)$. Now reflect $(6,-1)$ in $x=2$.

D3

Model repair: reverse 230° is 050° , not 130° . Now reverse 285° .

D4

Model repair: $1\text{ cm}:2\text{ km}$ means 7 cm is 14 km . Now $1\text{ cm}:3\text{ km}$; find real distance for 4.5 cm .

Apply with less support

Attempt Recall unaided. Select a matching worked repair; explain the change. Complete Apply and Prove independently. Use the practical sheet for a drawing check and keep its evidence separately from numeric retrieval.

A1

Triangle angles $42^\circ, 68^\circ, x^\circ$; regular hexagon interior y° ; co-interior partner z° of 72° . Find x, y, z with reasons.

A2

Enlarge (3,2) by $k=2$ about (1,1), then describe why (6,4) is wrong.

A3

At scale 1:25 000 a path is 12 cm long on bearing 065° . Find real length and reverse bearing.

Optional support: Use a different fact for each.

Use a non-calculator first attempt. In the practical repair, a calculator may check unit conversions; assess geometric reasoning and drawing separately.

Apply and extend reasoning

C1

A learner scores full retrieval points immediately after reading feedback. What further evidence would support retained learning?

C2

Two triangles have angles $40^\circ, 60^\circ, 80^\circ$. Can you claim congruence? Give a reason or counterexample.

Intentional practice feedback — read after attempting

A1: $70^\circ, 120^\circ, 108^\circ$.

A2: (5,3); (6,4) uses the origin as centre.

A3: 3 km; 245° .

C1: A fresh independent task after a delay with explanation and recorded support.

C2: No; enlarging one preserves angles but changes lengths.

Correct one response and explain your change. Stretch is available to either tier; temporary support needs do not determine entry tier.

Recall & Review through retrieval

Work without notes. Six retrieval points; this attempt does not establish mastery. Equivalent exact numeric forms are accepted. Where accuracy is requested, also state the requested form in your written work.

Q1 Co-interior partner of 118° , degrees

Q2 Regular hexagon interior, degrees

Q3 Reverse bearing 285° , numeric degrees

Q4 km for 6 cm at 1:50 000

Q5 x of reflection (5,1) in $x=2$

Q6 Triangle third: $42^\circ, 68^\circ$, degrees

Intentional retrieval feedback

Q1 62; Q2 120; Q3 105; Q4 3; Q5 -1 ; Q6 70. Correct and retry tomorrow, then in one week.

Prove independently and improve

P1–P2: five minutes without notes; 4 marks. Your teacher reviews explanations and method marks.
P3 has no mark.

P1

A regular polygon has exterior angle 30° . Find sides and interior angle. [2]

P2

Enlarge (2,4) by $k=2$ about (1,1), showing displacement. [2]

P3

Explain one corrected error. Record a fresh question and a date to check it without support.

Teacher feedback: _____

Fresh question and retry date: _____

Delayed independent evidence: _____

Prepare for the next lesson

L033: Perimeter and compound area

F1

Tomorrow reverse 155° and reflect (4,3) in $x=1$.

F2

Before L033, find perimeter and area of a 6 cm by 4 cm rectangle.

Read and prepare

Perimeter measures a boundary in length units; area measures surface coverage in square units. A compound shape can be partitioned into familiar shapes without overlaps or gaps.

Digital workbook: save locally where available; export a JSON backup before closing or moving the file. Restore only this lesson/version. Printing records answers, not mastery. Live browser checks remain pending; use Word/PDF if required.

Optional extension activities

Allow 10–15 minutes for learners who have secured the main practice. Show a method, explain a check and justify your conclusion.

Stretch

A regular hexagon has side 6 cm. Find perimeter and each exterior angle.

Deep challenge

A shape is enlarged by factor 3 and its original perimeter is 18 cm. A learner says new area is three times. Correct the reasoning.

Recall & Review: feedback and extension integration

Lesson L032: Geometry checkpoint and feedback

Objective: Use independent geometry evidence to identify misconceptions, complete a targeted repair and demonstrate transfer.

Timing for a 60-minute lesson

0-7 Connect & Check; 7-14 Share; 14-25 Present/model; 25-44 Apply route choice/practice; 44-52 independent exam-style check; 52-60 Recall & Review, WWW/EBI and next step.

Recall & Review evidence

At the end of the lesson, solve a fresh question without prompts, explain one check, correct one error and record the next practice step.

What Went Well (WWW)

I used my working and assessment evidence to identify the exact mathematical step that was secure and the specific misconception that needs attention.

Even Better If (EBI)

I will correct one precise step, explain why the correction works and complete a fresh delayed question without the original scaffold.

Integrated stretch and deep challenge

Stretch: A regular hexagon has side 6 cm. Find perimeter and each exterior angle.

Deep challenge: A shape is enlarged by factor 3 and its original perimeter is 18 cm. A learner says new area is three times. Correct the reasoning.

My next-step response
