

Unit 5 Practice

Unit 5: Quadrilaterals • Day 6 of unit • Practice before assessment

At a Glance

Pacing: Opening group challenge at boards (~15 min) • Individual practice self-directed by navigation instrument (~65 min) • Closing error review + nav instrument update (~10 min)

Materials: CYU 5.6 problem set (one per student) • Navigation instruments
• Boards and markers for opening challenge only

Nav instrument rows active: All five rows — students self-direct using their honest self-assessment on each row

Problem delivery: Opening challenge to all groups simultaneously. Then distribute CYU 5.6. Students begin at their honest level on each row and move up when ready.

More problems than students can finish: intentional. The set is complete — students start where they are, not at Q1.

OPENING — GROUP CHALLENGE AT BOARDS (≈15 MIN)

Write this on the board. All groups work simultaneously for about 15 minutes, then transition to individual practice.

Opening challenge — copy to board

Quadrilateral ABCD has vertices A(0, 0), B(4, 2), C(6, -1), D(2, -3). Classify ABCD as specifically as possible using coordinate methods. State one property of this quadrilateral that you could also prove using triangle congruence from Unit 3. Set up but do not complete the Euclidean proof. Update your navigation instrument honestly after this problem.

Answer

Slope AB = $1/2$. **Slope DC** = $1/2 \rightarrow AB \parallel DC$

Slope BC = $-3/2$. **Slope AD** = $-3/2 \rightarrow BC \parallel AD \rightarrow$ parallelogram.

AB = $\sqrt{20}$. **BC** = $\sqrt{13}$. Unequal $\rightarrow$ not a rhombus.

Slope AB $\times$ Slope BC = $(1/2)(-3/2) = -3/4 \neq -1 \rightarrow$ not a rectangle.

Classification: parallelogram only.

Euclidean thread: Draw diagonal AC. Alternate interior angles on $AB \parallel DC$ and $BC \parallel AD$ with transversal AC. Reflexive. $\rightarrow$ ASA $\rightarrow$ opposite sides congruent (CPCTC). This is the converse proof from Lesson 5.2.

After 15 minutes: 'Take what you just worked on and use it as you begin the problem set. Find your level on each row and begin there.'

INDIVIDUAL PRACTICE — PROBLEM ALIGNMENT

Row	Basic	Intermediate	Advanced
Row 1 — Classification & Definitions	Q1	Q2	Q3
Row 2 — Parallelogram Properties	Q4	Q5, Q6	Q7, Q8
Row 3 — Special Parallelograms	Q9	Q10, Q11	Q12, Q13
Row 4 — Trapezoids & Kites	Q14	Q15	Q16
Row 5 — Coordinate Methods	Q17	Q18	Q19

How students should use this

Students begin at their honest navigation instrument level on each row — not at Q1. They should not work through all 19 problems in order. A student at Intermediate on Row 2 starts at Q5, not Q4.

CIRCULATING — WHAT TO WATCH FOR

- Students who can apply formulas but cannot write a proof — direct to Row 2 or Row 3 proof problems (Q7, Q8, Q12, Q13).
- Students invoking the theorem rather than the converse (or vice versa) — ask: ‘What are you trying to prove? Does this give you what you want, or do you need the other direction?’
- Students who classify without checking all required conditions — ask: ‘Is showing one property consistent with this classification the same as confirming it?’
- Students who finish early — direct to the next level up on any row they marked as less than Advanced.

CLOSING — ERROR REVIEW + NAV INSTRUMENT UPDATE (≈10 MIN)

Pull the class together. Name the two or three errors you saw most during circulation — without identifying individual students. Give students 3 minutes to update their navigation instrument based on what this practice revealed.

If a significant number of students could not reach Advanced on Rows 2 or 3

Consider whether an additional practice day is needed before the assessment. The navigation instrument data from this lesson is your most reliable signal.