7-4 Find Areas of Polygons

Objective. Students will be able to find the areas of polygons by composing and decomposing shapes, including polygons on the coordinate plane.

Do Now	Teaching	Classwork	Group Work	Exit Ticket
0–10 min	10–35 min	35–60 min	60–80 min	80–90 min

Materials: Do Now slide/half-sheet · notes or guided notes · Classwork sheet · cut-out problem + answer cards · Exit Ticket slips

0–10′ 1 · Do Now — 10 min

Students enter and start silently (5–6 min). Go over all three (4 min): cold-call for #1–2 (review), use #3 to hook today's lesson.

1 REVIEW 7-3 — L1

The long diagonal (15 yd) cuts the kite into two equal triangles. Each triangle has height 6 yd. Find the area of one triangle and of the kite.

Answer: 45; *kite* 90 yd^2 — *Triangle:* $\frac{1}{2} \times 15 \times 6 = 45$; *kite* $2 \times 45 = 90$.

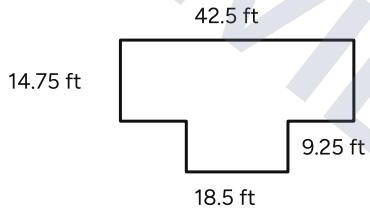
2 REVIEW 7-3 — L1

A trapezoid has bases of 11 m and 6 m and a height of 6 m. What is its area?

Answer: 51 m^2 — $\frac{1}{2}(11 + 6) \times 6 = 51$ *square m.*

3 PREVIEW — L1

Find the area of the T-shaped figure.



Answer: 798 ft^2 — *Top bar* $42.5 \times 14.75 = 626.875$; *stem* $18.5 \times 9.25 = 171.125$; *total* 798 *square ft.*

10–35′ 2 · Teaching — 25 min

VOCABULARY

polygon	a closed flat figure made of straight sides
decompose	break a figure into smaller, simpler shapes
total area	the sum of the areas of all the parts
subtract	take away
composite figure	a figure made of two or more simple shapes

KEY IDEAS (BOARD NOTES)

- Break a polygon into rectangles and triangles, find each area, then add.
- Sometimes it is easier to find the area of a big shape and subtract the part that is missing.
- Find side lengths from the coordinates (subtract, or add distances across an axis), then use area formulas.

PREVIEW PREVIEW PREVIEW PREVIEW PREVIEW PREVIEW PREVIEW PREVIEW PREVIEW PREVIEW PREVIEW PREVIEW