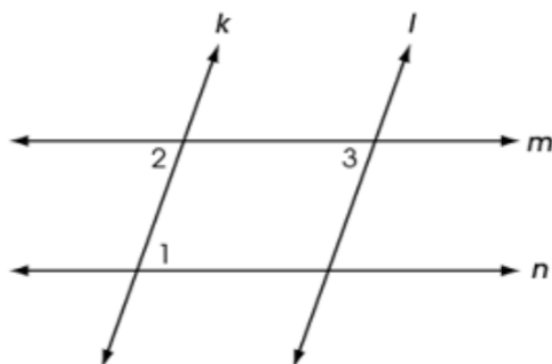


Parallelogram

Proof.

Problem 1 Adapted from Ohio's 2017 Geometry released item 13.

Two pairs of parallel lines intersect to form a parallelogram as shown.



Complete the following proof that opposite angles of a parallelogram are congruent:

- (a) $\angle 1 \cong \angle 2$ as (opposite angles / alternate interior angles ✓ / corresponding angles) for parallel lines (m and n / k and l).
- (b) $\angle 3 \cong \angle 2$ as (opposite angles / alternate interior angles / corresponding angles ✓) for parallel lines (m and n / k and l ✓).
- (c) Then $\angle 1 \cong \angle 3$ because they are both congruent to $\angle 2$.
