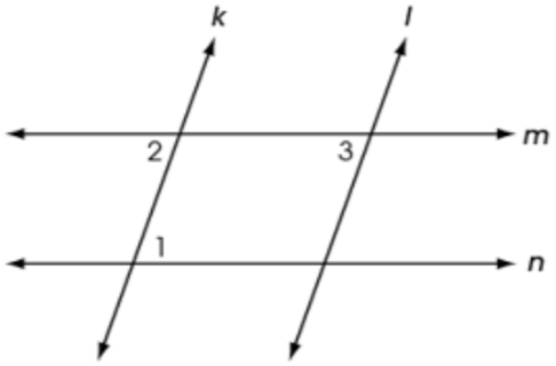
End-of-Course Exam Proofs for Math 1

Proofs.

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* $\angle 2$*.*

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