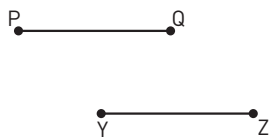
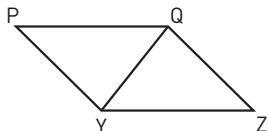


YOU & MATHS **Prove it!** Write a proof for the following statement.

If PQ and YZ are on parallel and non-coincident lines, and $PQ \cong ZY$, then $PY \cong QZ$.



Draw segment QY and consider angles \widehat{PQY} and \widehat{QYZ} .



The angles are congruent because they are alternate interior angles.

Draw segments PY and QZ and consider triangles PQY and QYZ . These are congruent by the first criterion of congruency, because sides PQ and YZ are congruent by hypothesis, side YQ is in common, and the angles \widehat{PQY} and \widehat{QYZ} are congruent for the step above. This implies that QZ is congruent to PY .