

# Practice 3-2

## Proving Lines Parallel

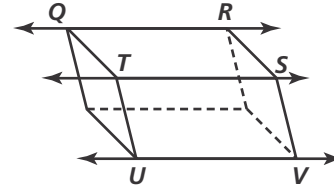
1. **Developing Proof** Complete the paragraph proof for the figure shown.

Given:  $\angle RQT$  and  $\angle QTS$  are supplementary.

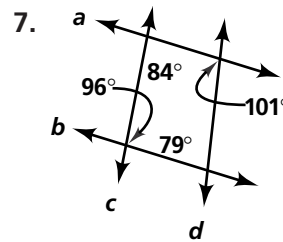
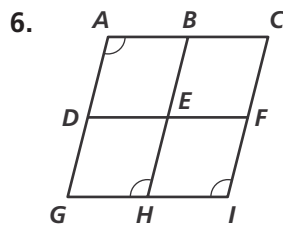
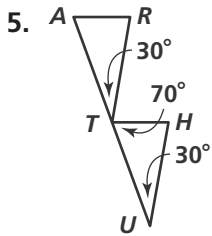
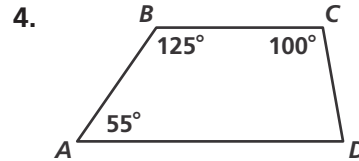
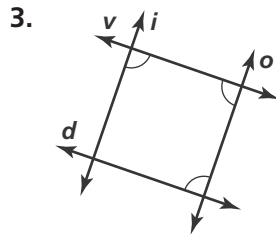
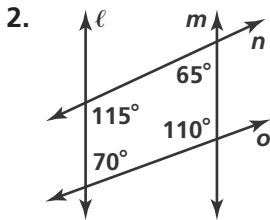
$\angle TSV$  and  $\angle SVU$  are supplementary.

Prove:  $\overleftrightarrow{QR} \parallel \overleftrightarrow{UV}$

**Proof** Because  $\angle RQT$  and  $\angle QTS$  are supplementary,  $\angle RQT$  and  $\angle QTS$  are **a.** ? angles. By the Same-Side Interior Angles Theorem, **b.** ?  $\parallel$  **c.** ?. Because  $\angle TSV$  and  $\angle SVU$  are supplementary,  $\angle TSV$  and  $\angle SVU$  are **d.** ? angles. By the **e.** ? Theorem,  $\overleftrightarrow{TS} \parallel \overleftrightarrow{UV}$ . Because  $\overleftrightarrow{QR}$  and  $\overleftrightarrow{UV}$  both are parallel to **f.** ?,  $\overleftrightarrow{QR} \parallel \overleftrightarrow{UV}$  by Theorem **g.** ?.



Which lines or segments are parallel? Justify your answer with a theorem or postulate.



**Algebra** Find the value of  $x$  for which  $a \parallel t$ .

