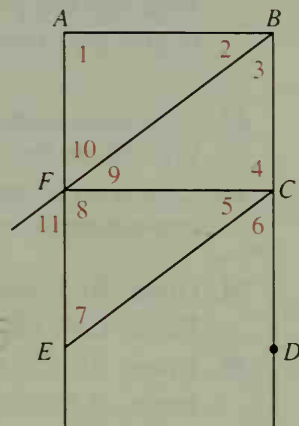


## Written Exercises

In each exercise some information is given. Use this information to name the segments that must be parallel. If there are no such segments, write *none*.

- A**
- $\angle 2 \cong \angle 9$
  - $\angle 6 \cong \angle 7$
  - $m\angle 1 = m\angle 8 = 90$
  - $\angle 5 \cong \angle 9$
  - $m\angle 2 = m\angle 5$
  - $\angle 3 \cong \angle 11$
  - $m\angle 1 = m\angle 4 = 90$
  - $m\angle 10 = m\angle 11$
  - $m\angle 8 + m\angle 5 + m\angle 6 = 180$
  - $\overline{FC} \perp \overline{AE}$  and  $\overline{FC} \perp \overline{BD}$
  - $m\angle 5 + m\angle 6 = m\angle 9 + m\angle 10$
  - $\angle 7$  and  $\angle EFB$  are supplementary.
  - $\angle 2$  and  $\angle 3$  are complementary and  $m\angle 1 = 90$ .
  - $m\angle 2 + m\angle 3 = m\angle 4$
  - $m\angle 7 = m\angle 3 = m\angle 10$
  - $m\angle 4 = m\angle 8 = m\angle 1$

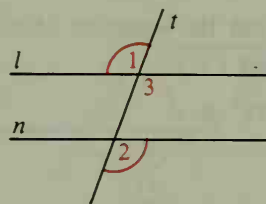


- Write the reasons to complete the proof: If two lines are cut by a transversal and alternate exterior angles are congruent, then the lines are parallel.

Given: Transversal  $t$  cuts lines  $l$  and  $n$ ;

$$\angle 2 \cong \angle 1$$

Prove:  $l \parallel n$



### Proof:

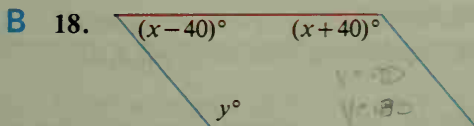
Statements

Reasons

- $\angle 2 \cong \angle 1$
- $\angle 1 \cong \angle 3$
- $\angle 2 \cong \angle 3$
- $l \parallel n$

- ?
- ?
- ?
- ?

Find the values of  $x$  and  $y$  that make the red lines parallel and the blue lines parallel.



19.

