

Postulate:

If 2 lines are cut by a transversal so that corresponding angles are congruent, then the lines are parallel.

If corr. \angle 's are \cong , then lines are $//$.

Postulate:

If given a line and a point not on the line, then there exists exactly one line through the point that is parallel to the given line.

Theorem:

If 2 lines in a plane are cut by a transversal so that a pair of alternate exterior angles are congruent, then the two lines are parallel.

If alt. ext. \angle 's are \cong , then lines are $//$.

Theorem:

If 2 lines in a plane are cut by a transversal so that a pair of alternate interior angles are congruent, then the two lines are parallel.

If alt. int. \angle 's are \cong , then lines are $//$.

Theorem:

If 2 lines in a plane are cut by a transversal so that a pair of consecutive interior angles are supplementary, then the two lines are parallel.

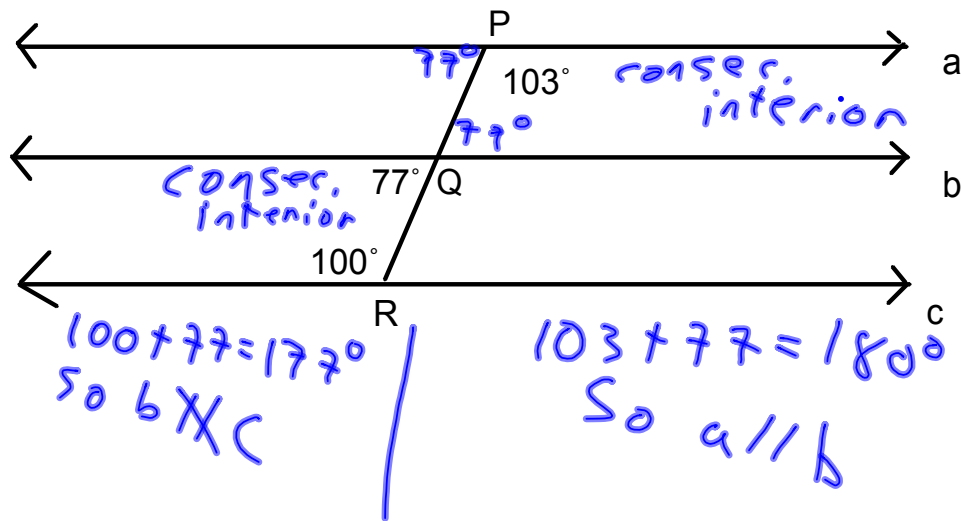
If cons. int. \angle 's are supp., then lines are $//$.

Theorem:

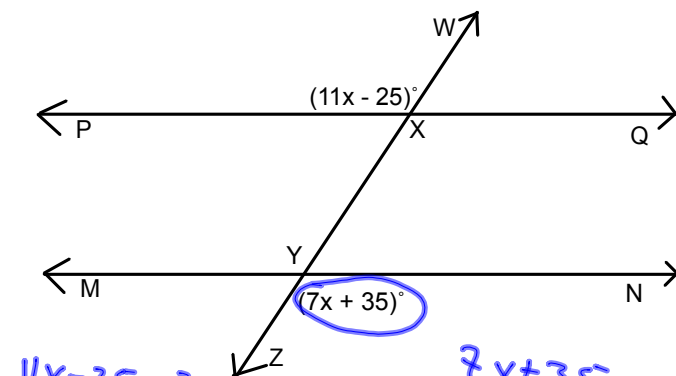
In a plane, if two lines are \perp to the same line, then they are parallel.

If 2 lines are \perp to the same line, then lines $//$.

1. Determine which lines, if any, are parallel.



2. Find x and $m\angle ZYN$ so that $\overline{PQ} \parallel \overline{MN}$.



$$\begin{aligned}
 11x - 25 &= 7x + 35 \\
 -7x &\quad -7x \\
 \hline
 4x - 25 &= 35 \\
 +25 &\quad +25 \\
 \hline
 4x &= 60 \\
 \div 4 &\quad \div 4 \\
 x &= 15
 \end{aligned}$$

$$\begin{aligned}
 7x + 35 &= 7(15) + 35 \\
 &= 105 + 35 \\
 m\angle ZYN &= 105 + 35 \\
 &= 140^\circ
 \end{aligned}$$