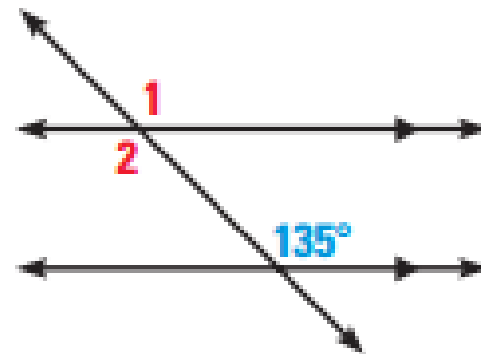
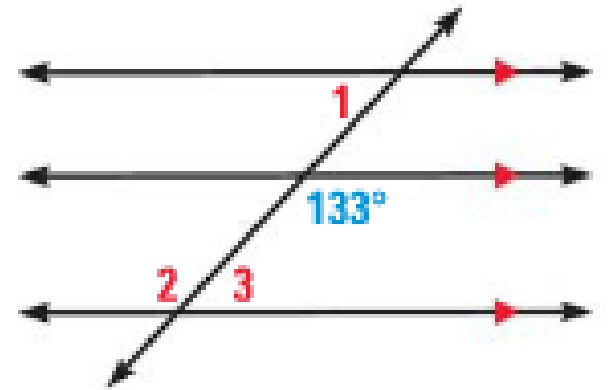


Tuesday, October 7

Objective:

Students will be able to find missing angles using angle relationships with parallel lines and transversals

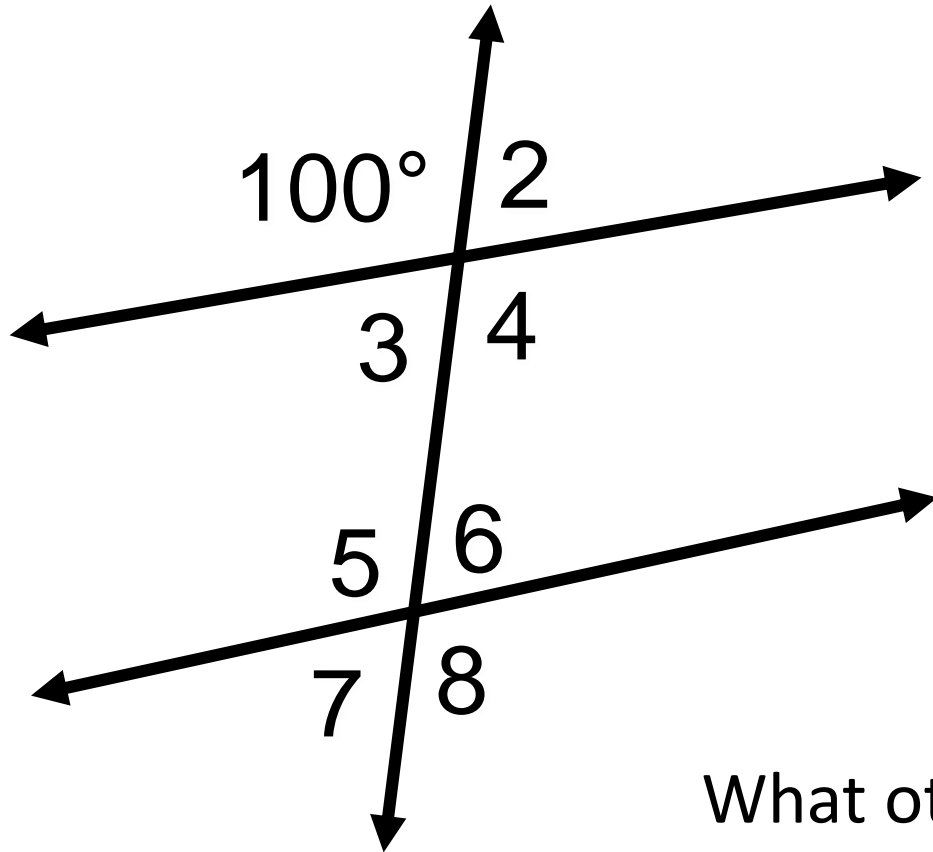
DO NOW



HOMEWORK: p. 156 #22-32 even. Show work to get any credit

3.2 Parallel Lines and Transversals

Find $m\angle 5$



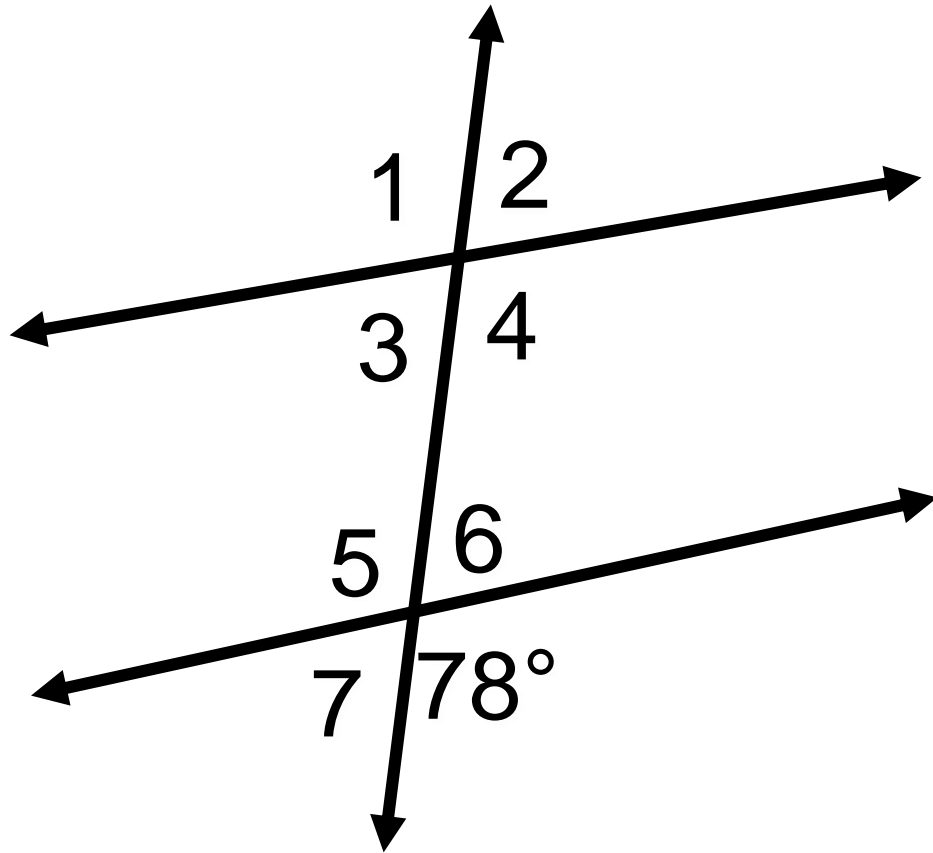
Why?

Corresponding Angles Postulate

What other angles measure 100° ?

3.2 Parallel Lines and Transversals

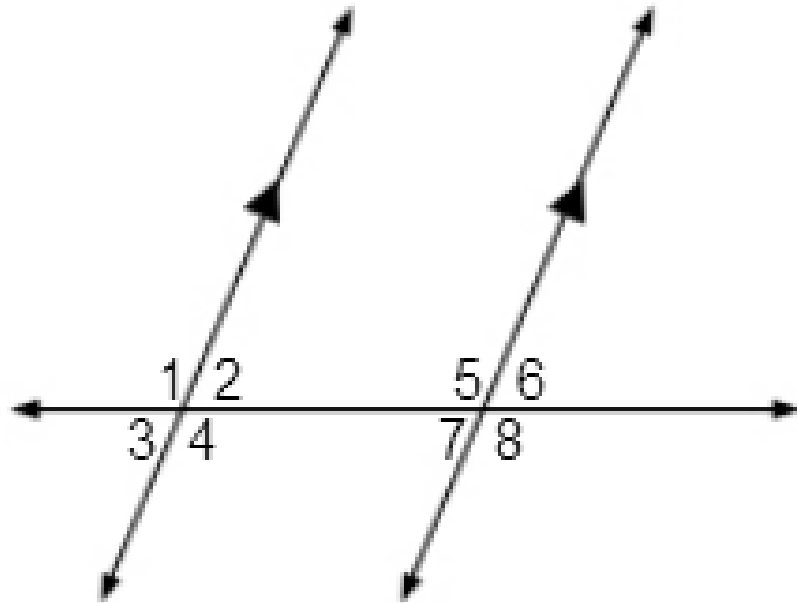
Find $m\angle 5$



Why?

Find $m\angle 1$

3.2 Parallel Lines and Transversals



What postulate or theorem justifies the statement about the diagram?

$$\angle 4 \cong \angle 5$$

Corresponding Angles Postulate

3.2 Parallel Lines and Transversals

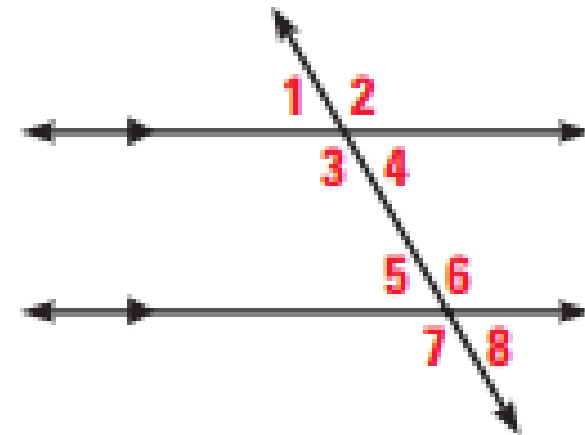
State the postulate or theorem that justifies the statement.

$$\angle 2 \cong \angle 7$$

$$\angle 4 \cong \angle 5$$

$$m\angle 3 + m\angle 5 = 180^\circ$$

$$\angle 2 \cong \angle 6$$



Alternate Exterior Angles Theorem

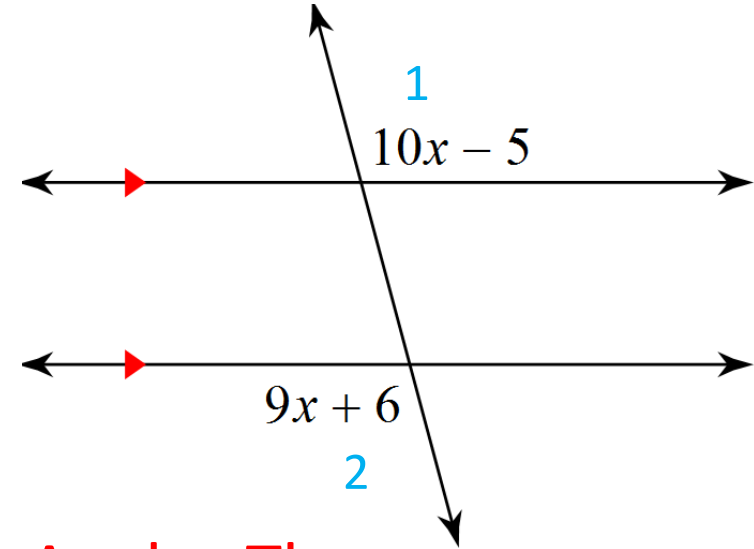
Alternate Interior Angles Theorem

Consecutive (Same Side) Interior Angles Theorem

Corresponding Angles Postulate

3.2 Parallel Lines and Transversals

Find the value of x



Geom. Set-up: $\angle 1 = \angle 2$

Alternate Exterior Angles Theorem

$$9x + 6 = 10x - 5 \quad \text{Substitution}$$

$$-9x \quad -9x$$

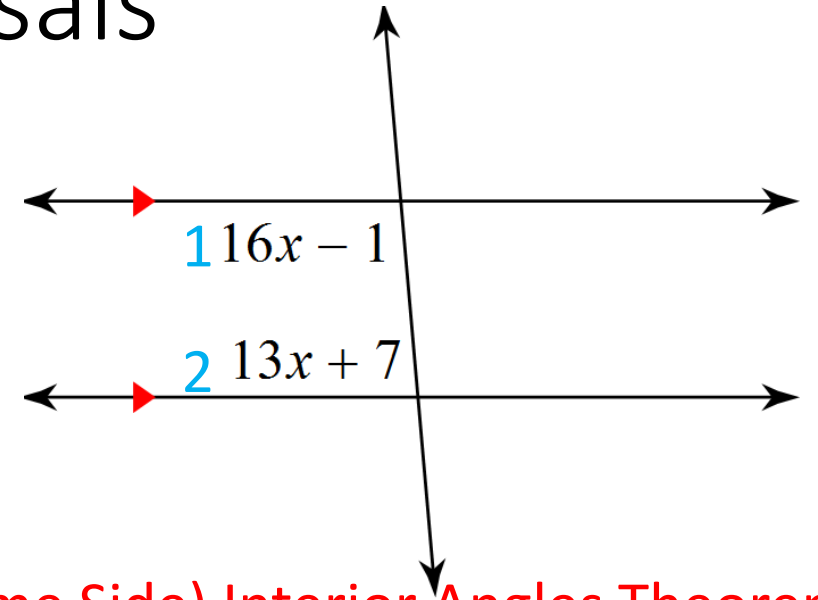
$$6 = x - 5 \quad \text{Subtraction}$$

$$+5 \quad +5$$

$$11 = x \quad \text{Addition}$$

3.2 Parallel Lines and Transversals

Find the value of x



Geom. Set-up: $\angle 1 + \angle 2 = 180^\circ$

Consecutive (Same Side) Interior Angles Theorem

$$16x - 1 + 13x + 7 = 180^\circ$$

Substitution

$$29x + 6 = 180^\circ$$

Add/Subt.(combine like terms)

$$\begin{array}{r} -6 \quad -6 \\ \hline 29x = 174 \\ \hline 29 \quad 29 \end{array}$$

Subtraction

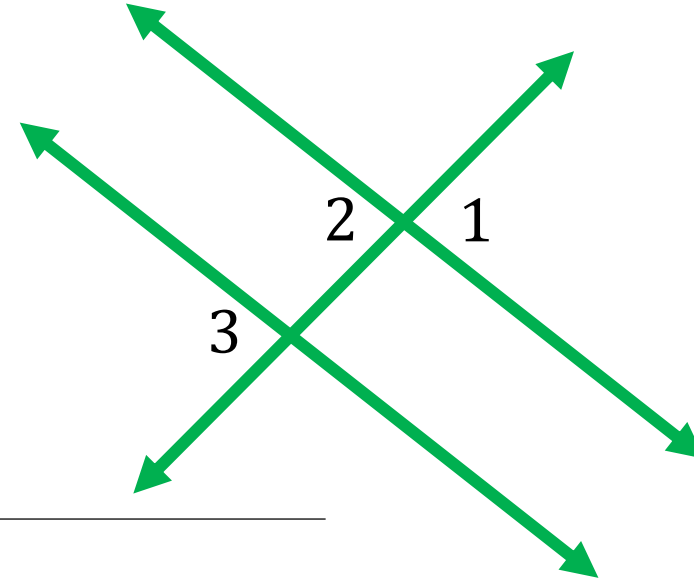
$$x = 6$$

Division

3.2 Parallel Lines and Transversals

Given: $q \parallel r$

Prove: $\angle 1 \cong \angle 3$



Statements	Reasons
$q \parallel r$	Given
$\angle 1 \cong \angle 2$	Vertical Angle Congruence Theorem
$\angle 2 \cong \angle 3$	Corresponding Angles Theorem
$\angle 1 \cong \angle 3$	Transitive Property