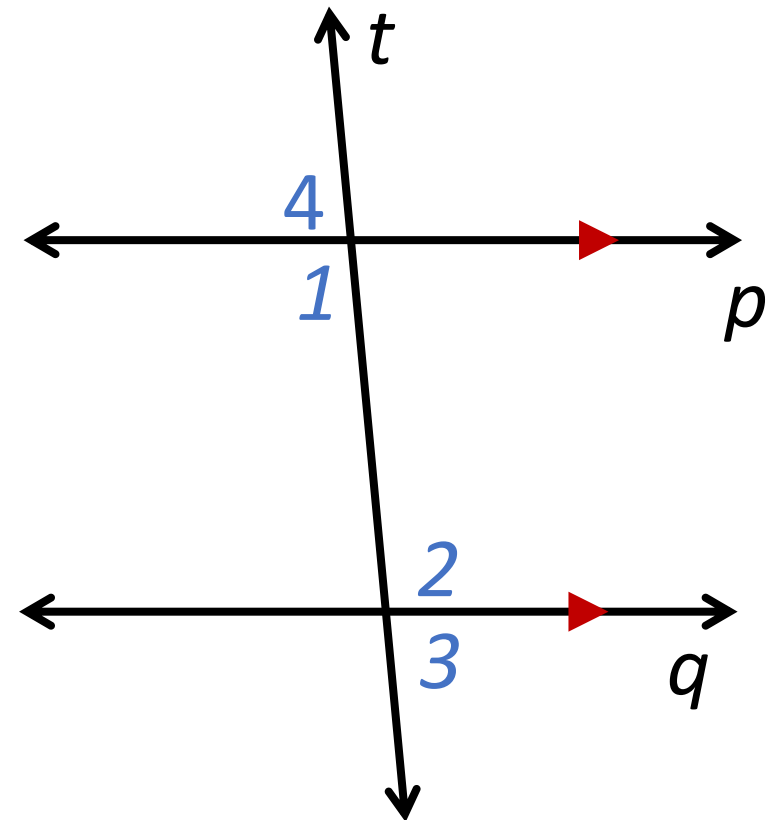


Bell Work

Student Journal p 70: 1-8

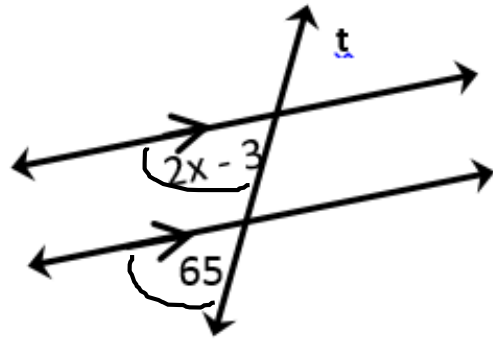
Parallel Lines and Transversals

Section 3.2



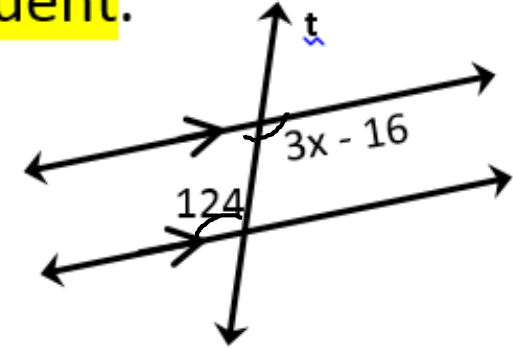
If two parallel lines are cut by a transversal, **corresponding angles are congruent.**

$$\begin{array}{r} 2x - 3 = 65 \\ +3 \quad +3 \\ \hline 2x = 68 \\ x = 34 \end{array}$$



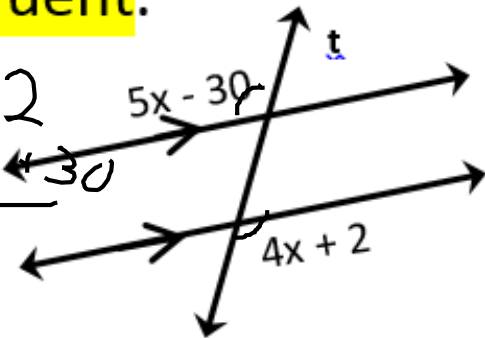
If two parallel lines are cut by a transversal, **alternate interior angles are congruent.**

$$\begin{array}{r} 3x - 16 = 124 \\ +16 \quad +16 \\ \hline 3x = 140 \\ \frac{3x}{3} = \frac{140}{3} \\ x = 46\frac{2}{3} \end{array}$$



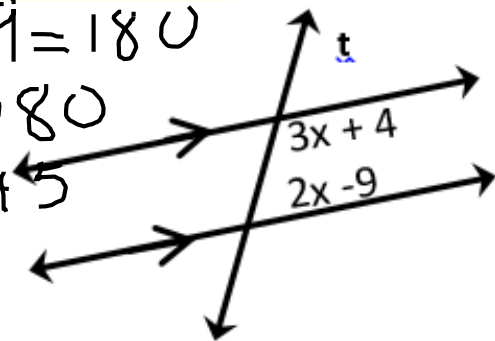
If two parallel lines are cut by a transversal, **alternate exterior angles are congruent.**

$$\begin{array}{r} 5x - 30 = 4x + 2 \\ -4x \quad +30 \quad -4x \quad +30 \\ \hline x = 32 \end{array}$$

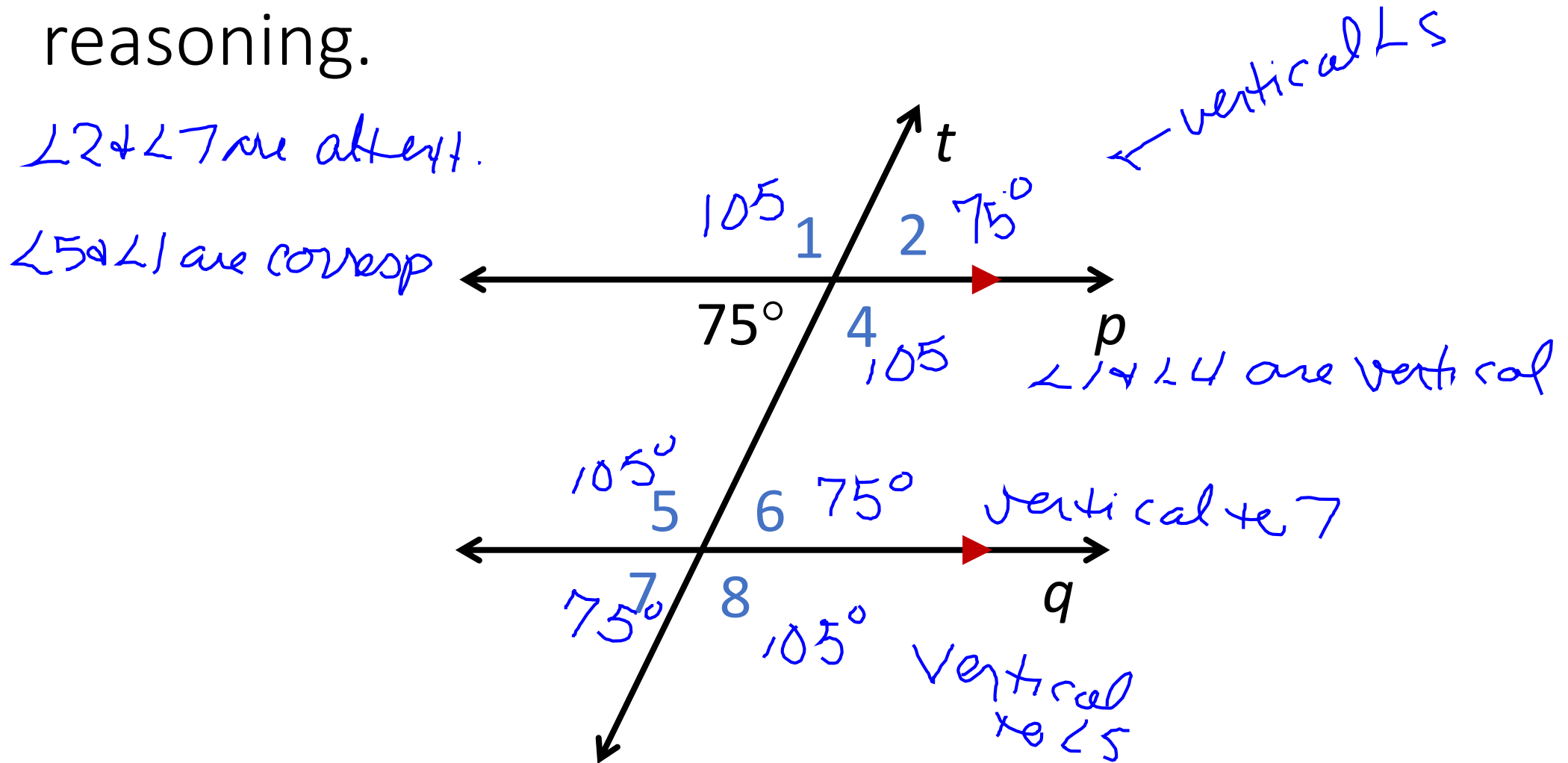


If two parallel lines are cut by a transversal, **consecutive interior angles are supplementary.**

$$\begin{array}{r} 3x + 4 + 2x - 9 = 180 \\ 5x - 5 = 180 \\ +5 \quad +5 \\ \hline 5x = 185 \\ x = 37 \end{array}$$

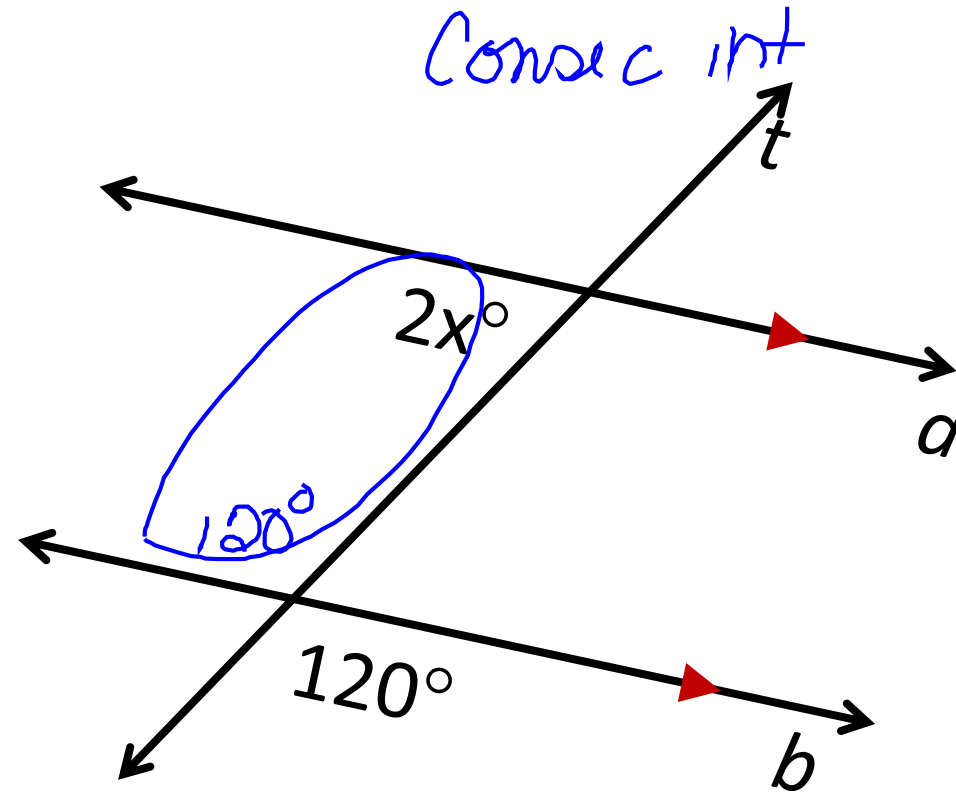


The measures of three of the numbered angles are 75° . Identify the angles and explain your reasoning.



Find the value of x .

$$\begin{aligned} & 2x \\ 2x + 120 &= 180 \\ -120 &- 120 \\ \hline 2x &= 60 \\ x &= 30^\circ \end{aligned}$$



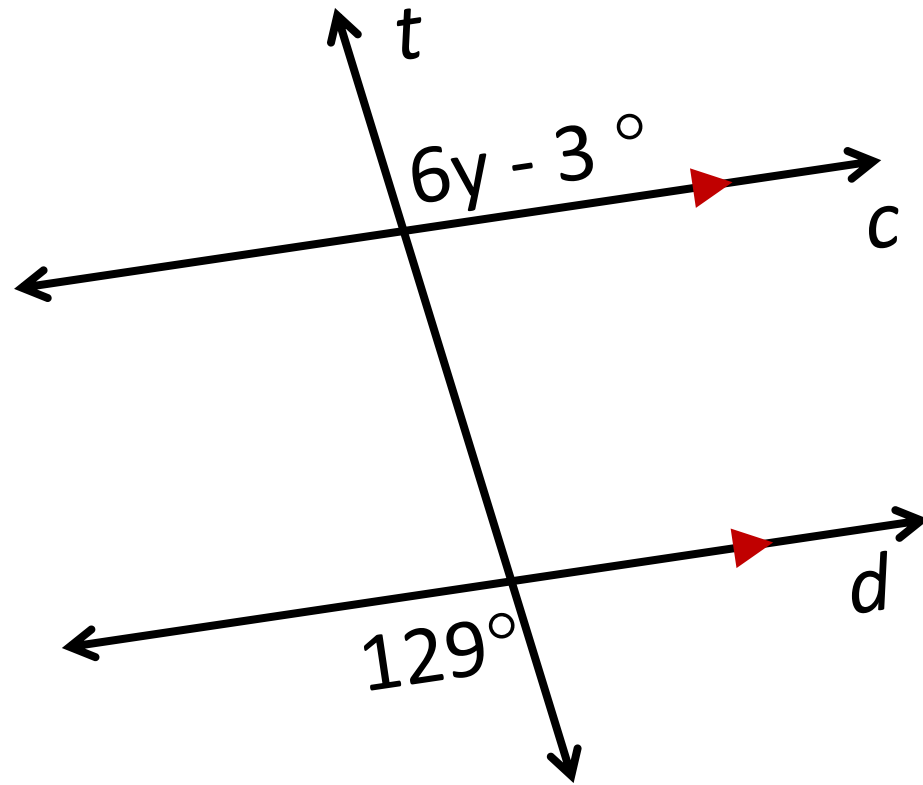
Find the value of y .

alt \sphericalangle s \cong

$$6y - 3 = 129$$

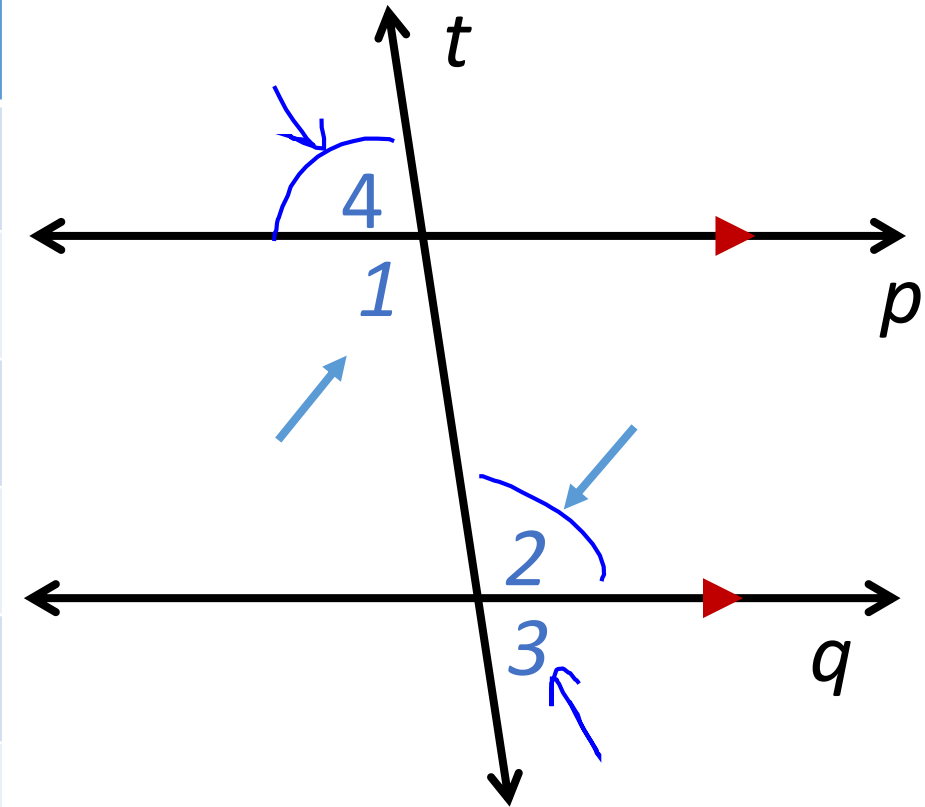
$$\frac{6y}{6} = \frac{132}{6}$$

$$y = 22$$

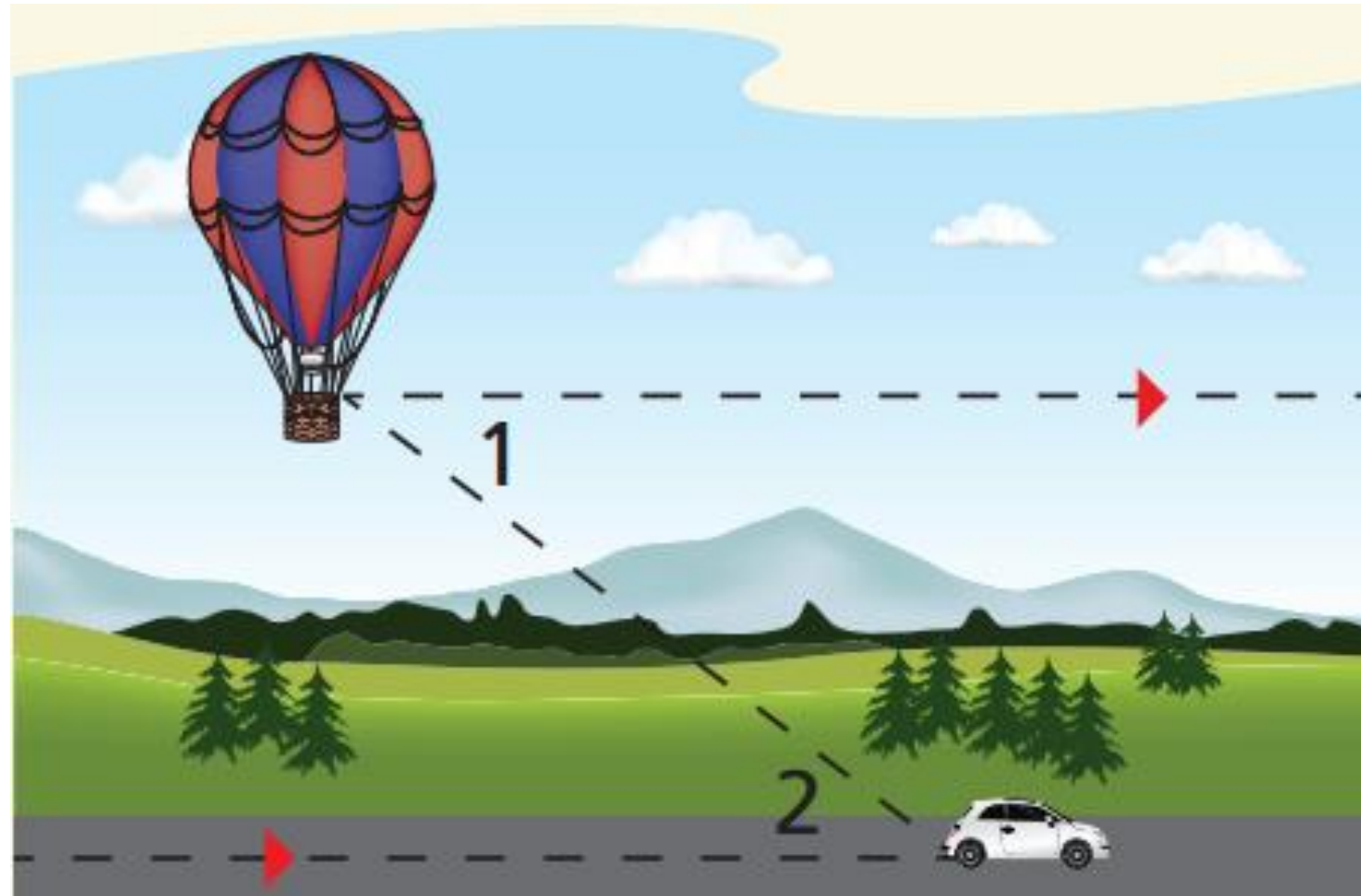


Prove the Alternate Interior Angles Theorem without using the Corresponding Angles Theorem.

Statements	Reasons
1. $p \parallel q$	1. given
2) $\angle 1 + \angle 4 = 180^\circ$	2) linear pairs supp
3) $\angle 2 + \angle 3 = 180^\circ$	3) " " "
4) $\angle 1 + \angle 4 = \angle 2 + \angle 3$	4) substitution
5) $\angle 3 \cong \angle 4$	5) alt int $\angle s \cong$
6) $m\angle 3 = m\angle 4$	6) def of cong
7) $\angle 1 + \angle 3 = m\angle 2 + m\angle 3$ $m\angle 1 = m\angle 2$	7) subst. 8) subtraction



A balloonist sees a car at a 37° angle of depression from horizontal. In the diagram, $m\angle 1 = 37^\circ$. What is $m\angle 2$? How do you know?



In Class – Lesson 3.2 p. 135: 1, 2-12 e, 13-17,
23, 25-28

Homework – Write the following theorems in
your notes:

Corresponding Angles Converse (p. 138)

Alternate Interior Angles Converse (p. 139)

Alternate Exterior Angles Converse (p. 139)

Consecutive Interior Angles Converse (p. 139)

Transitive Property of Parallel Lines (p. 141)

