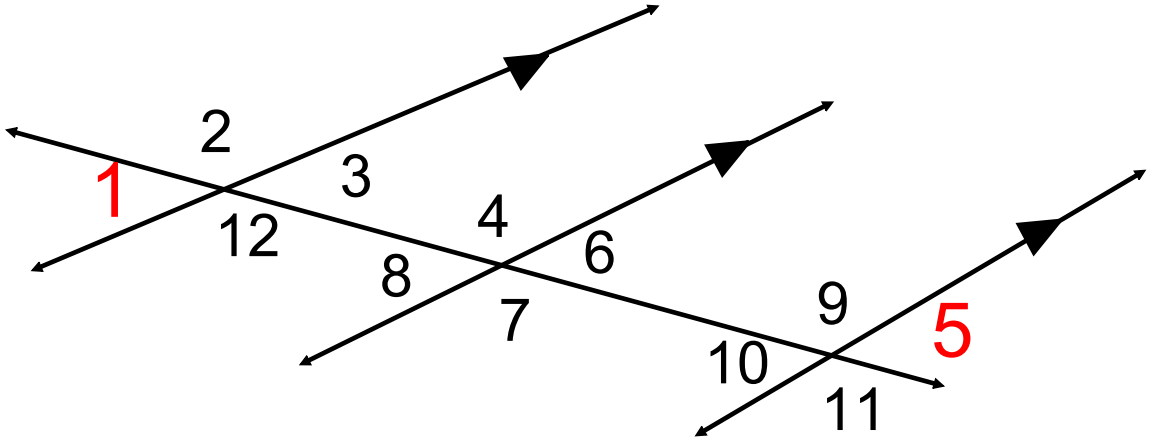
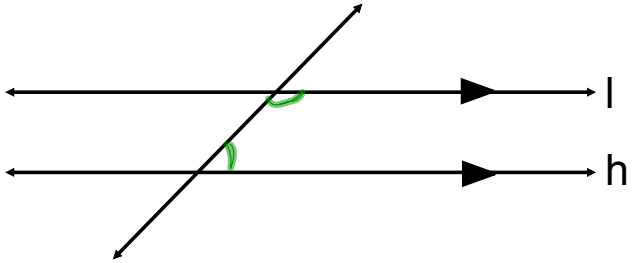
Bellwork:

How do you know angle 1 and 5 are the same?



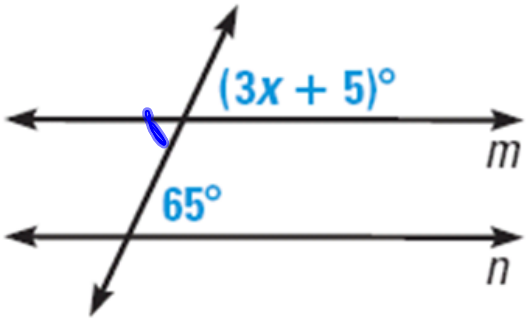
Chapter 3.3: Prove Lines are Parallel



What makes line l and h parallel?

- If two lines are cut by a transversal so their corresponding angles are congruent, then they are parallel

Find the value of x that makes m parallel to n.



$3x + 5 = 65$

$-5 \quad -5$

$\frac{3x}{3} = \frac{60}{3}$

$x = 20$

Converses!!!!!

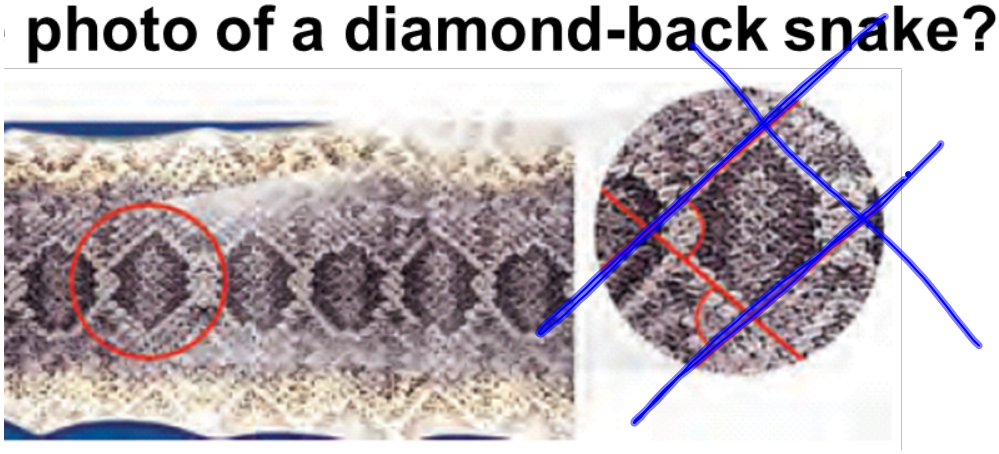
- If two lines cut by a transversal have congruent alternate interior angles, then the lines are parallel.

- If two lines cut by a transversal have congruent alternate exterior angles, then the lines are parallel.

- If two lines cut by a transversal have supplementary consecutive interior angles, then the lines are parallel.

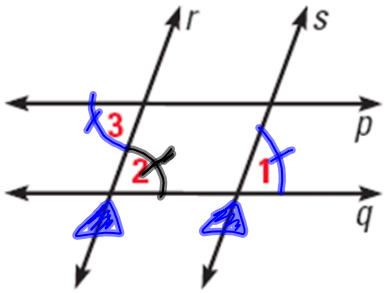
ns

tell whether the sides of the pattern are photo of a diamond-back snake?



ex. Prove that is two lines are cut by a transversal so the alternate interior angles are congruent, then the lines are parallel.

In the figure, $r \parallel s$ and $\angle 1$ is congruent to $\angle 3$. Prove $p \parallel q$.



Given: $r \parallel s$, $\angle 1 \cong \angle 3$

Prove: $p \parallel q$

$\angle 1 \cong \angle 3$ given

$\angle 1 \cong \angle 2$ corresponding angles

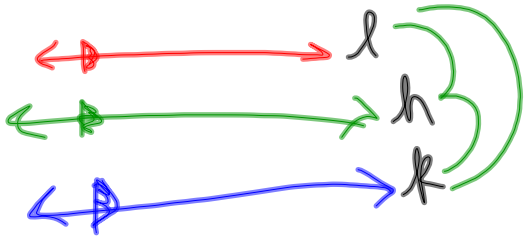
$\angle 2 \cong \angle 3$ transitive prop.

$p \parallel q$ alt int. angles are congruent

Transitive Property for Parallel Lines

- If two lines are parallel to the same line, then they are parallel to each other.

PICTURE!!!!



If $a=b$ and $b=c$ then $a=c$

If a car is fast and fast is agile then car is agile.

Homework: Chapter 3.3 pg.165 #'s 3-5,10-12,17,19,27