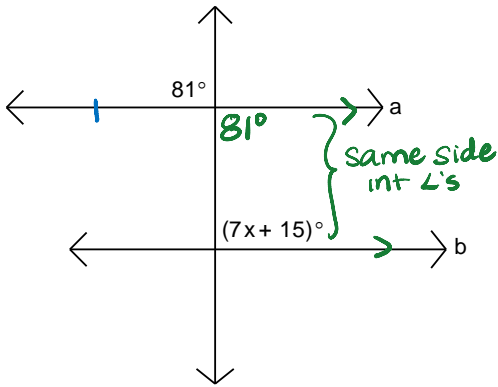


Geometry 3.1-3.3 Review Day 2

Name: \_\_\_\_\_

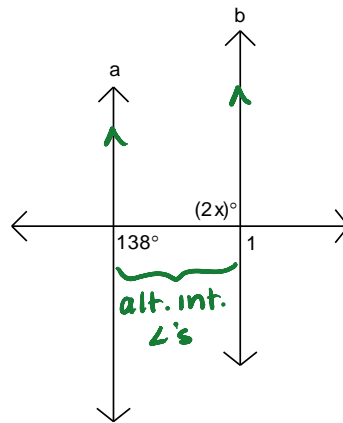
For questions 1 – 3, assume  $a \parallel b$ .

1. Solve for x.  $x=12$



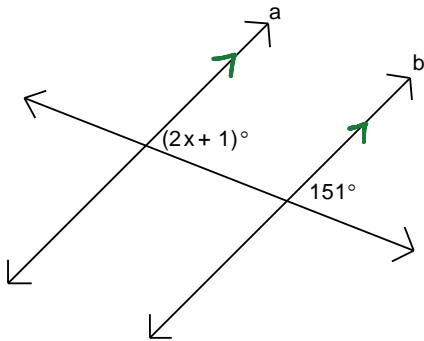
$$\begin{aligned} 7x + 15 + 81 &= 180 \\ 7x + 96 &= 180 \\ 7x &= 84 \\ x &= 12 \end{aligned}$$

2. Find x.  $x=69$



$$\begin{aligned} 2x &= 138 \\ x &= 69 \\ m\angle 1 &= 2(69) \\ m\angle 1 &= 138^\circ \end{aligned}$$

3. Solve for x.  $x=75$

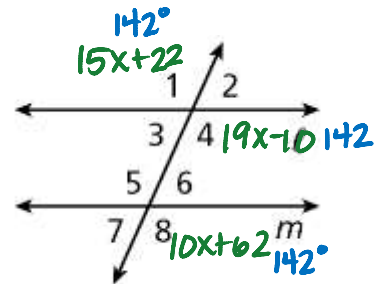


$$\begin{aligned} \text{corr } \angle\text{'s} \\ 2x + 1 &= 151 \\ 2x &= 150 \\ x &= 75 \end{aligned}$$

Use the diagram to the right for #4-5. Determine whether or not line  $l$  is parallel to line  $m$ .

- 4.) Given:  $m\angle 1 = (15x + 22)^\circ$   
 $m\angle 4 = (19x - 10)^\circ$   
 $m\angle 8 = (10x + 62)^\circ$

$$\begin{aligned} \star \text{ must start w/ V.A.} \\ 19x - 10 &= 15x + 22 \\ 4x &= 32 \\ x &= 8 \end{aligned}$$

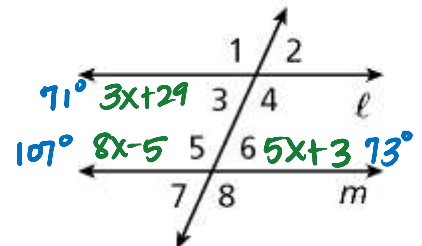


Is  $l \parallel m$ ? Explain why or why not.

Yes 😊 b/c... ① If corr  $\angle$ 's are  $\cong$ , then  $\parallel$  lines

- 5.) Given:  $m\angle 6 = (5x + 3)^\circ$   
 $m\angle 5 = (8x - 5)^\circ$   
 $m\angle 3 = (3x + 29)^\circ$

$$\begin{aligned} \text{OR} \\ \text{② If alt. ext. } \angle\text{'s are } \cong, \text{ then } \parallel \text{ lines.} \\ \star \text{ must start w/ L.P. } \angle\text{'s} \\ 5x + 3 + 8x - 5 &= 180 \\ 13x - 2 &= 180 \\ 13x &= 182 \\ x &= 14 \end{aligned}$$

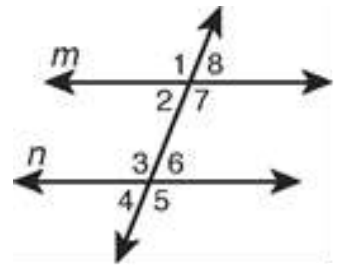


Is  $l \parallel m$ ? Explain why or why not.

No 😞 b/c same side int  $\angle$ 's are not supp.

6.) Given:  $m \parallel n$

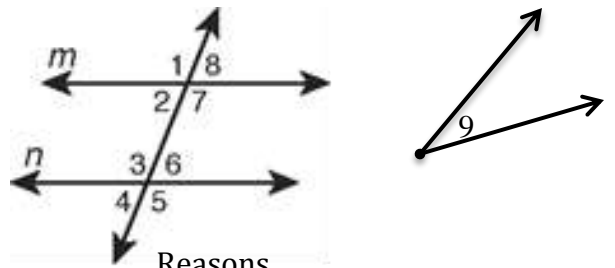
Prove:  $\angle 2 \cong \angle 4$



Statements	Reasons
① $m \parallel n$	① Given
② $\angle 2 \cong \angle 4$	② If 2 $\parallel$ lines, then Corr. $\angle$ 's are $\cong$ .

7.) Given:  $\angle 6$  supplementary to  $\angle 9$   
 $\angle 9 \cong \angle 7$

Prove:  $m \parallel n$



Statements	Reasons
① $\angle 6$ is supp $\angle 7$	① Given
② $\angle 9 \cong \angle 7$	② $\downarrow$
③ $\angle 6$ is supp $\angle 9$	③ Substitution Prop.
④ $m \parallel n$	④ If same side int $\angle$ 's are supp, then 2 lines are $\parallel$ .

For 8 and 9, given line a is parallel to line b, find the value of x.

