

(In class graded assignment)

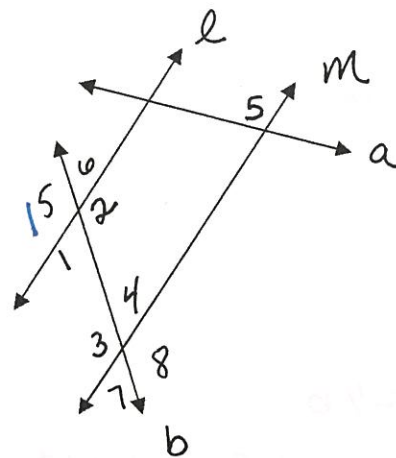
Name: _____ Period: _____

$l \parallel m$

Given: $m\angle 1 = 30^\circ$

$m\angle 3 = m\angle 5$

Prove: $m\angle 5 = 150^\circ$

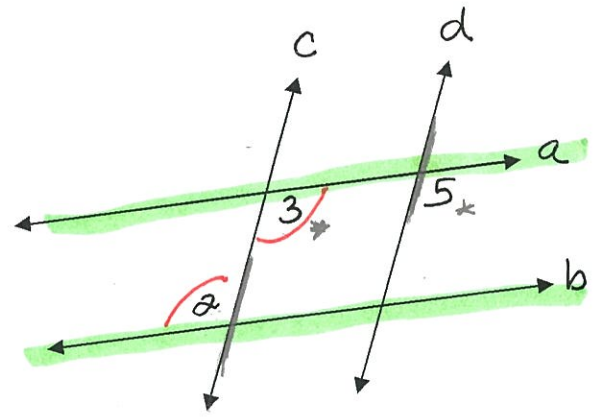


- ① $l \parallel m$
- ② $\angle 1 + \angle 3$ are s.s. int.
- ③ $\angle 1 + \angle 3$ are supp.
- ④ $m\angle 1 + m\angle 3 = 180^\circ$
- ⑤ $m\angle 1 = 30^\circ$
- ⑥ $30^\circ + m\angle 3 = 180^\circ$
- ⑦ $m\angle 3 = 150^\circ$
- ⑧ $m\angle 3 = m\angle 5$
- ⑨ $m\angle 5 = 150^\circ$

- ① given
- ② def. of s.s. int. \angle 's
- ③ s.s. int. \angle thm.
- ④ def of supp. \angle
- ⑤ given
- ⑥ subst. prop of =
- ⑦ subst. prop of =
- ⑧ given
- ⑨ subst. prop of =

Given: $a \parallel b$
 $m\angle 2 = m\angle 5$

Prove: $c \parallel d$



- ① $a \parallel b$
- ② $\angle 2$ and $\angle 3$ are alt. int.
- ③ $\angle 2 \cong \angle 3$
- ④ $m\angle 2 = m\angle 3$
- ⑤ $m\angle 2 = m\angle 5$
- ⑥ $m\angle 5 = m\angle 3$
- ⑦ $\angle 5 \cong \angle 3$
- ⑧ $\angle 5$ and $\angle 3$ are corr. \angle
- ⑨ $c \parallel d$

- ① given
- ② def of alt. int. \angle 's
- ③ alt. int. \angle thm
- ④ def of cong. \angle 's
- ⑤ given
- ⑥ subst. prop of =
- ⑦ def of cong. \angle 's
- ⑧ def of corr. \angle 's
- ⑨ converse of corr. \angle post.