

Proof Practice

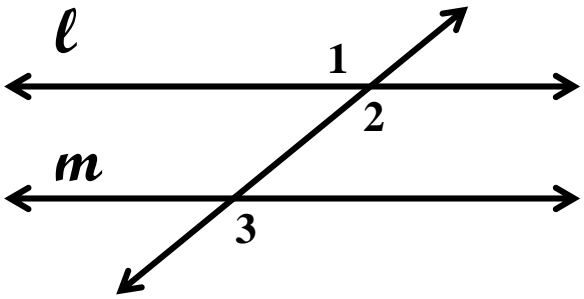
- Cover up the answers for the reasons (and/or statements).
- Then complete the proof problems.
- For reasons, remember you can write out the theorem or postulate (as seen here) OR state the name of the theorem or postulate.
- Check your work with the proof answers provided.

- You can use these proofs with the Matching Cards (mentioned in the Hints on the proofs), which are in a separate document
- OR better practice would be to just fill in the proofs without cards 😊

#1

Given: $l \parallel m$

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



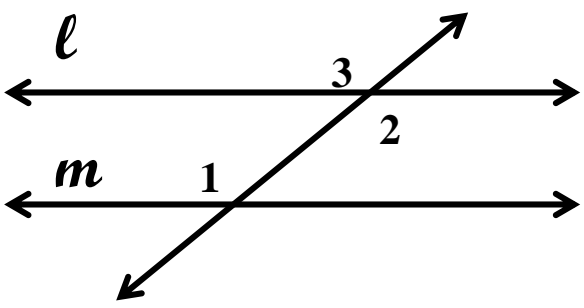
Hint: Use cards 3, 4, 7, 14 and C, D, E, I

Statement	Reason
$l \parallel m$	Given
$\angle 1 \cong \angle 2$	Vertical angles are \cong
$\angle 2 \cong \angle 3$	If \parallel then Corresponding \angle s are \cong
$\angle 1 \cong \angle 3$	Transitive property \cong

#2

Given: $l \parallel m$

Prove: $\angle 1 \cong \angle 2$



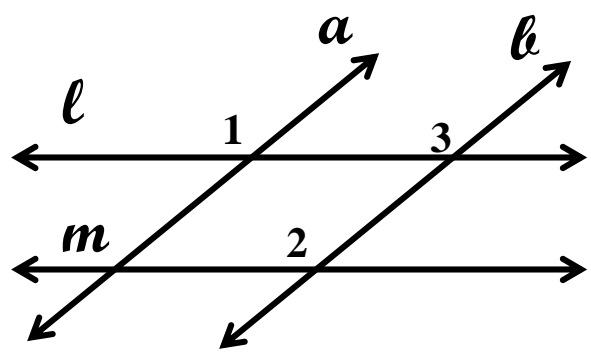
Hint: Use cards 1, 3, 4, 14 and C, D, E, I

Statement	Reason
$l \parallel m$	Given
$\angle 1 \cong \angle 3$	If \parallel then Corresponding \angle s are \cong
$\angle 3 \cong \angle 2$	Vertical angles are \cong
$\angle 1 \cong \angle 2$	Transitive property \cong

#3

Given: $l \parallel m, a \parallel b$

Prove: $\angle 1 \cong \angle 2$



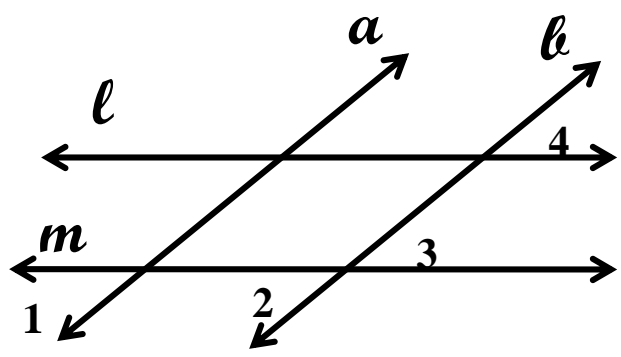
Hint: Use cards 1, 3, 4, 11, 14 and C, D, G, I

Statement	Reason
$l \parallel m, a \parallel b$	Given
$\angle 1 \cong \angle 3$	If \parallel then Corresponding \angle s are \cong
$\angle 3 \cong \angle 2$	If \parallel then Corresponding \angle s are \cong
$\angle 1 \cong \angle 2$	Transitive property \cong

#4

Given: $l \parallel m, a \parallel b$

Prove: $\angle 1 \cong \angle 4$



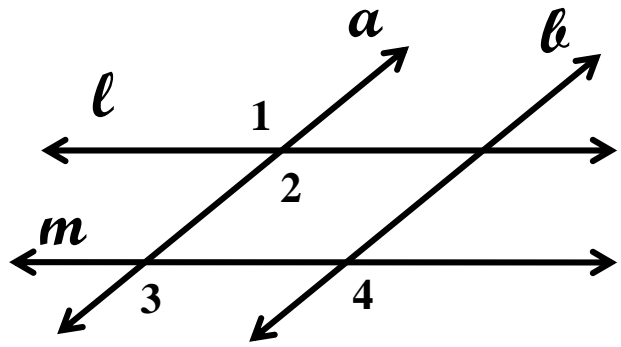
Hint: Use cards 4, 7, 8, 9, 11, 14 and C, D, E, G, I

Statement	Reason
$l \parallel m, a \parallel b$	Given
$\angle 1 \cong \angle 2$	If \parallel then Corresponding \angle s are \cong
$\angle 2 \cong \angle 3$	Vertical angles are \cong
$\angle 3 \cong \angle 4$	If \parallel then Corresponding \angle s are \cong
$\angle 1 \cong \angle 4$	Transitive property \cong

#5

Given: $l \parallel m, a \parallel b$
Prove:

$$\angle 1 \cong \angle 4$$



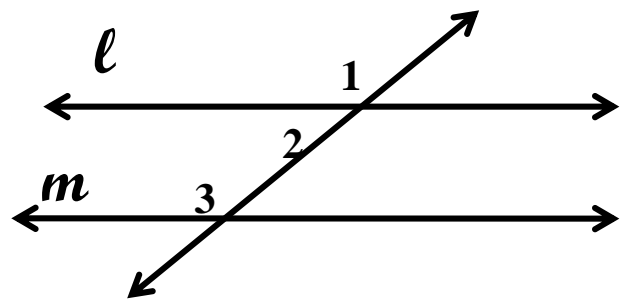
Hint: Use cards 4, 7, 8, 9, 11, 14 and C, D, E, G, I

Statement	Reason
$l \parallel m, a \parallel b$	Given
$\angle 1 \cong \angle 2$	Vertical angles are \cong
$\angle 2 \cong \angle 3$	If \parallel then Corresponding \angle s are \cong
$\angle 3 \cong \angle 4$	If \parallel then Corresponding \angle s are \cong
$\angle 1 \cong \angle 4$	Transitive property \cong

#6

Given: $l \parallel m$
Prove:

$$m\angle 3 + m\angle 2 = 180$$



Hint: Use cards 2, 3, 5, 6, 14 and A, B, D, F, I

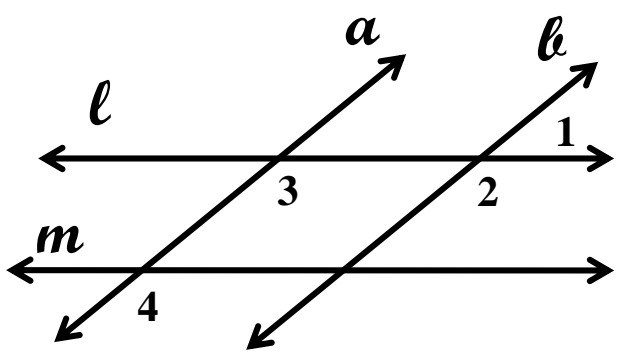
Statement	Reason
$l \parallel m$	Given
$m\angle 1 + m\angle 2 = 180$	Linear pairs are supplementary
$\angle 1 \cong \angle 3$	If \parallel then Corresponding \angle s are \cong
$m\angle 1 = m\angle 3$	If \angle s are \cong , then measures are =
$m\angle 3 + m\angle 2 = 180$	Substitution Property =

#7

Given: $l \parallel m, a \parallel b$

Prove:

$$m\angle 1 + m\angle 4 = 180$$



Hint #1: Start with card #11, 14, 5

Hint #2: Then use card #7

Hint #3: Use cards 5, 7, 8, 10, 11, 12, 13, 14 and A, B, C, D, F, G, I

Statement	Reason
$l \parallel m, a \parallel b$	Given
$m\angle 1 + m\angle 2 = 180$	Linear pairs are supplementary
$\angle 2 \cong \angle 3$	If \parallel then Corresponding \angle s are \cong
$\angle 3 \cong \angle 4$	If \parallel then Corresponding \angle s are \cong
$\angle 2 \cong \angle 4$	Transitive property \cong
$m\angle 2 = m\angle 4$	If \angle s are \cong , then measures are =
$m\angle 1 + m\angle 4 = 180$	Substitution Property =