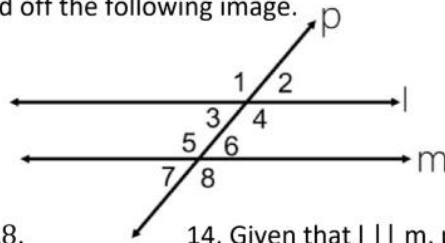


Complete the following proofs based off the following image.



13. Given that  $l \parallel m$ , prove  $\angle 1 \cong \angle 8$ .

14. Given that  $l \parallel m$ , prove  $\angle 1$  and  $\angle 7$  are supplementary.

Statement	Reason
$l \parallel m$	<u>Given</u>
$\angle 1 \cong \angle 5$	Corresponding $\angle$ 's Postulate
$\angle 5 \cong \angle 8$	<u>Vert. <math>\angle</math>'s Thm.</u>
$\angle 1 \cong \angle 8$	Transitive Property

Statement	Reason
$l \parallel m$	Given
$\angle 1 \cong \angle 5$	<u>Corr. <math>\angle</math>'s Post.</u>
$m\angle 1 = m\angle 5$	Definition of Congruence
$\angle 5$ and $\angle 7$ are linear pairs	<u>Def. Linear Pairs</u>
$m\angle 5 + m\angle 7 = 180^\circ$	Linear pairs are supplementary
$m\angle 1 + m\angle 7 = 180^\circ$	Substitution
$\angle 1$ and $\angle 7$ are supplementary	<u>Def. of Supp.</u>

Write the following proofs.

15. Given that  $l \parallel m$ , prove  $\angle 4$  and  $\angle 6$  are supplementary

16. Given that  $l \parallel m$ , prove  $\angle 3 \cong \angle 6$ .

statement	Reason
$l \parallel m$	Given
$\angle 4 \cong \angle 8$	Corr. $\angle$ 's Post.
$\angle 8$ & $\angle 6$ are Linear Pairs	Def. of Linear Pairs
$m\angle 8 + m\angle 6 = 180^\circ$	Linear Pairs Conjecture
$m\angle 4 = m\angle 8$	Def. of congruence
$m\angle 4 + m\angle 6 = 180^\circ$	Substitution
$\angle 4$ and $\angle 6$ are Supp.	Def. of Supp.

statement	Reason
$l \parallel m$	Given
$\angle 3 \cong \angle 7$	Corr. $\angle$ 's Post
$\angle 7 \cong \angle 6$	Vert. $\angle$ 's Thm.
$\angle 3 \cong \angle 6$	Transitive Prop.