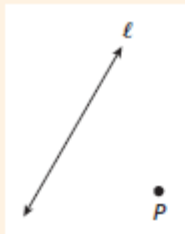


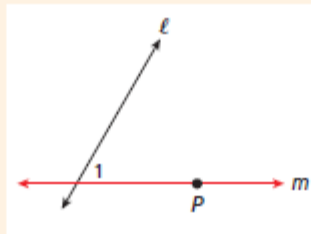


Construction Parallel Lines

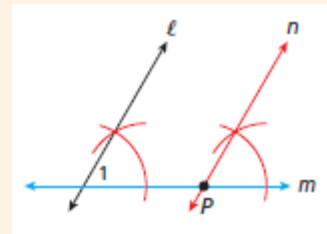
- 1 Draw a line ℓ and a point P that is not on ℓ .



- 2 Draw a line m through P that intersects ℓ . Label the angle 1.



- 3 Construct an angle congruent to $\angle 1$ at P . By the converse of the Corresponding Angles Postulate, $\ell \parallel n$.



Theorems Proving Lines Parallel

THEOREM	HYPOTHESIS	CONCLUSION
<p>3-3-3 Converse of the Alternate Interior Angles Theorem If two coplanar lines are cut by a transversal so that a pair of alternate interior angles are congruent, then the two lines are parallel.</p>	$\angle 1 \cong \angle 2$ 	$m \parallel n$
<p>3-3-4 Converse of the Alternate Exterior Angles Theorem If two coplanar lines are cut by a transversal so that a pair of alternate exterior angles are congruent, then the two lines are parallel.</p>	$\angle 3 \cong \angle 4$ 	$m \parallel n$
<p>3-3-5 Converse of the Same-Side Interior Angles Theorem If two coplanar lines are cut by a transversal so that a pair of same-side interior angles are supplementary, then the two lines are parallel.</p>	$m\angle 5 + m\angle 6 = 180^\circ$ 	$m \parallel n$

You will prove Theorems 3-3-3 and 3-3-5 in Exercises 38–39.