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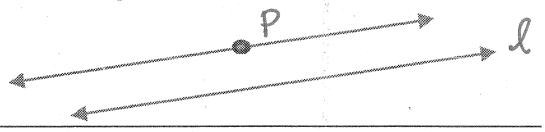
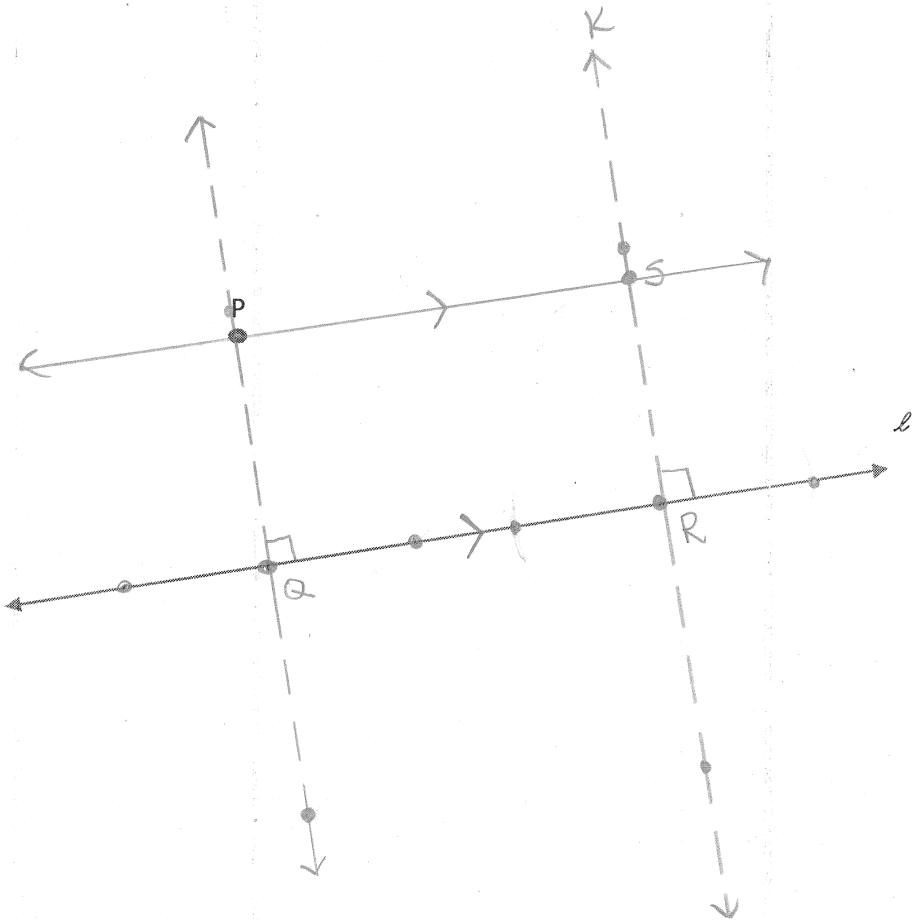
Section 3.5

Parallel Lines	Coplanar lines that do not intersect (**Note:** This means that the lines are always the same distance apart.
Parallel Postulate (Euclid's 5th postulate)	Through a point not on a line, there is exactly one line through the point parallel to the line. 
	
Constructing parallel lines using the "Equidistant Method" Process: (1) construct ⊥ to ℓ through P; label it Q (2) Select point on ℓ construct a line ⊥ to ℓ through point R (Line k) (3) Locate point S on line k so that PQ = RS (compass) (4) Construct $\overleftrightarrow{PS}$	Given: Line ℓ and Point P NOT on ℓ Construct: A line through P parallel to ℓ 

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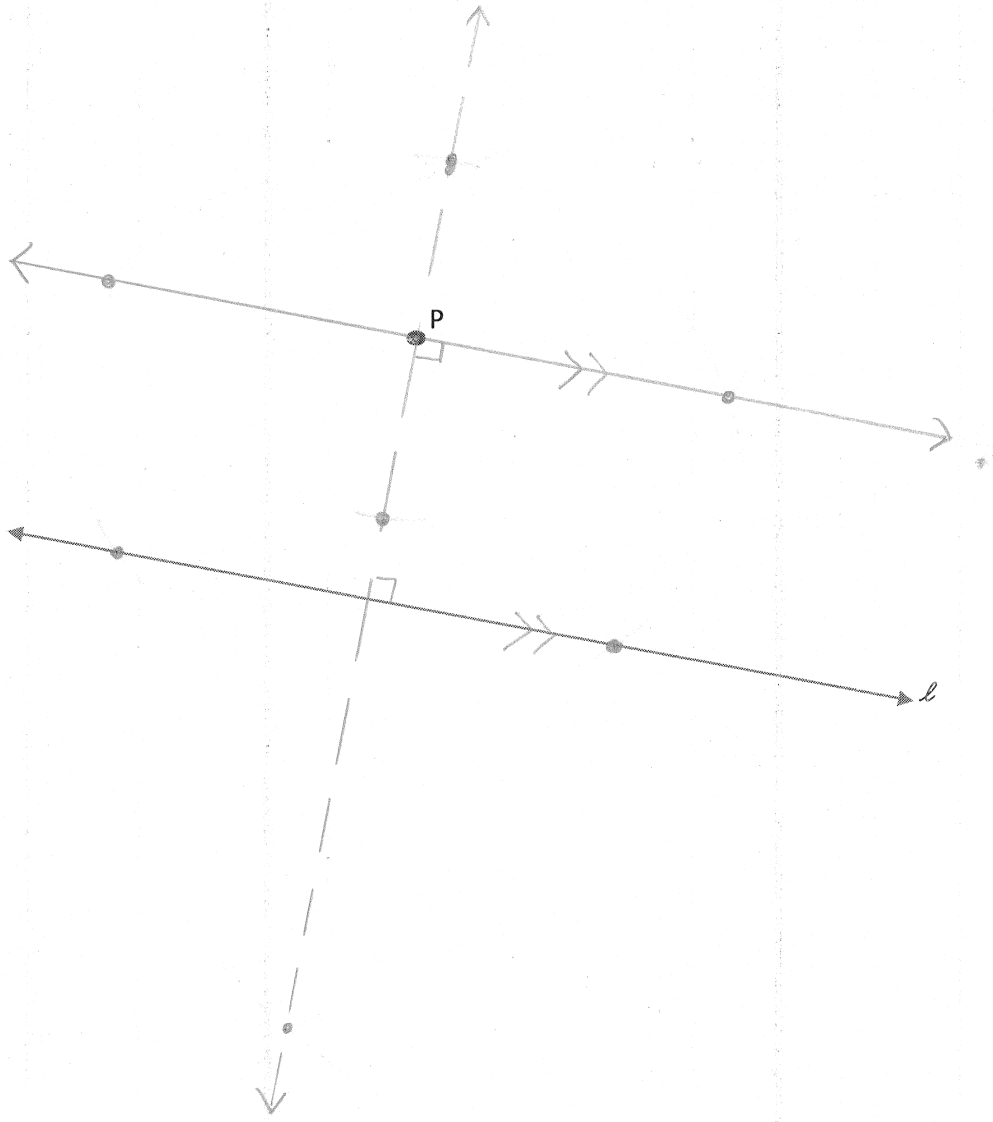
Two Perpendiculars Conjecture	In a plane, if two lines are perpendicular to the same line, then the lines are parallel
Constructing Parallel Lines using the "Two lines perpendicular to the same line" method Process: (1) construct ⊥ line to ℓ through P; call it line k. (2) construct ⊥ line to k through P; call this line j. Then j ∥ ℓ	

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Constructing Parallel Lines using the "Rhombus" method

Process:

(1) Choose point on ℓ and call it *M*

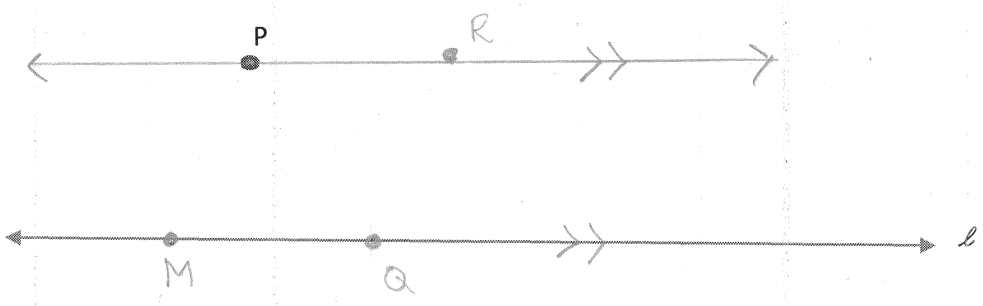
(2) From M, draw arc of radius PM through ℓ; call it Q

(3) From Q, draw an arc w/ radius PM

(4) From P, draw arc w/ radius PM

(5) 2 arcs intersect @ R

(6) construct $\overleftrightarrow{PR}$



Constructing Parallel Lines using the "Alternate Interior Angles" method

(1) Draw line thru A and B

(2) Draw arc at point A and B

(3) Measure out congruent angles at points (AIA)