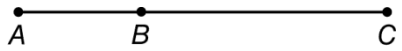
Mr. Powder
Ditto 17

Pre-Algebra 8
Name: _____

Complete each proof with either statements or reasons.

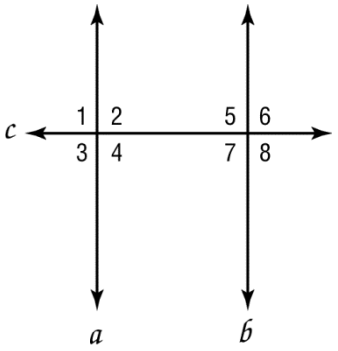
1. Given: AC = 12 and BC is twice the length of AB.
Prove: BC = 8

Statements	Reasons
a. AC = 12	
BC = 2(AB)	_____
b. AB + BC = AC	Line Segment Addition
c. AB + 2(AB) = 12	_____
d. _____	Combine Like Terms
e. AB = 4	_____
f. BC = 2(4)	_____
g. _____	Multiply



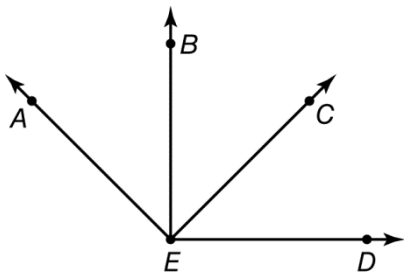
2. Given: Lines *a* and *b* are parallel and cut by transversal *c*; ∠1 is a right angle
Prove: $b \perp c$

Statements	Reasons
a. $a \parallel b$, cut by transversal c	
$m\angle 1 = 90$	_____
b. $m\angle 1 = m\angle 5$	_____
c. $m\angle 5 = 90$	_____
d. $b \perp c$	_____



3. Given: ∠AEC is a right angle; ∠AEB ≅ ∠CED
Prove: ∠BED is a right angle

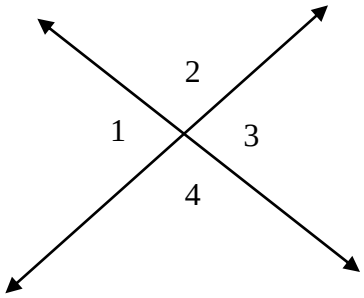
Statements	Reasons
a. $m\angle AEC = 90$	
$\angle AEB \cong \angle CED$	_____
b. $m\angle AEB + m\angle BEC = m\angle AEC$	_____
c. $m\angle AEB + m\angle BEC = 90$	_____
d. $m\angle BEC + m\angle CED = m\angle BED$	_____
e. $m\angle BEC + m\angle AEB = m\angle BED$	_____
f. $90 = m\angle BED$	_____
g. ∠BED is a right angle	_____



Complete a paragraph proof.

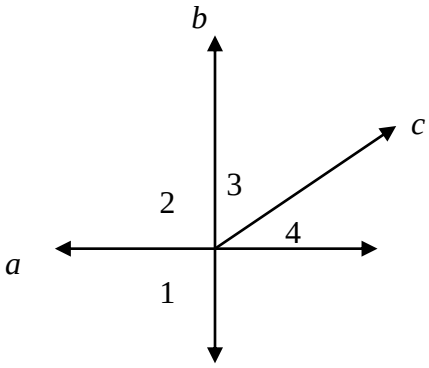
4. Given: Two intersecting lines with $m\angle 1 = 6x + 45$ and $m\angle 3 = 9x + 15$

Prove: $x = 10$



5. Given: Lines a and b are perpendicular.

Prove: $\angle 3$ and $\angle 4$ are complementary.



6. Given: $\angle 1$ and $\angle 2$ are a linear pair; $m\angle 1 = 120°$

Prove: $\angle 2$ is acute.