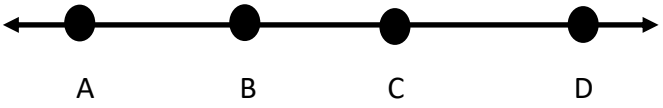
Geometry
Proofs

Name _____
Date _____ Per_____

Given: $AB = CD$

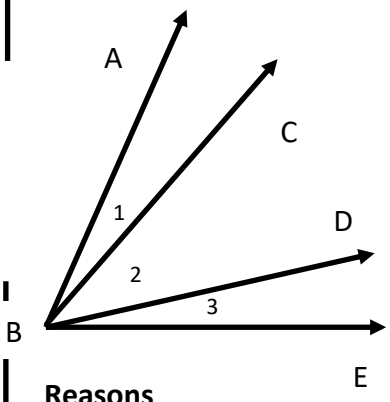
Prove: $AC = BD$



Statements	**Reasons**
1) $AB = CD$	1)
2) $BC = BC$	2)
3) $AB + BC = AB + BC$	3)
4) $AB + BC = CD + BC$	4)
5) $AC = AB + BC$ $BD = BC + CD$	5)
6) $AC = BD$	6)

Given: $m\angle 1 = m\angle 3$

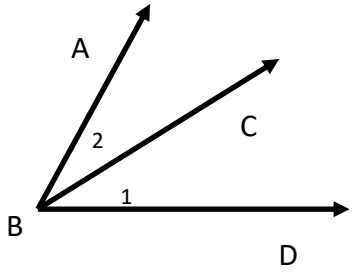
Prove: $m\angle ABD = m\angle CBE$

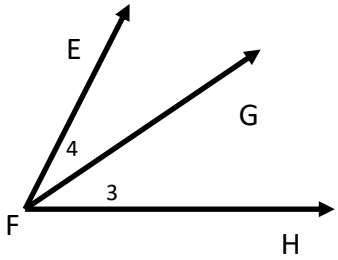


Statements	**Reasons**
1) $m\angle 1 = m\angle 3$	1)
2) $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 2$	2)
3) $m\angle ABD = m\angle 1 + m\angle 2$ $m\angle CBE = m\angle 3 + m\angle 2$	3)
4) $m\angle ABD = m\angle CBE$	4)

Given: $m\angle ABD = m\angle EFH$
$m\angle 2 = m\angle 4$

Prove: $m\angle 1 = m\angle 3$

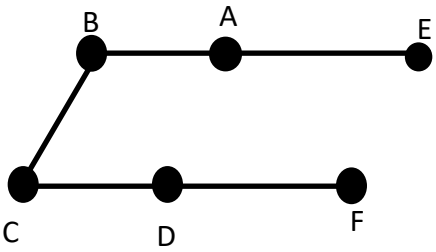




Statements	**Reasons**
1) $m\angle ABD = m\angle EFH$ $m\angle 2 = m\angle 4$	1)
2)	2) Angle Addition Postulate
3)	3) Substitution Property
4)	4) Substitution Property
5)	5) Subtraction Property

Given: $BA = BC, BC = CD, AE = DF$

Prove: $BE = CF$



Statements	**Reasons**
1)	1)
2) $BA = CD$	2)
3)	3) Segment Addition Postulate
4) $BE = CD + AE$	4)
5) $BE = CD + DF$	5)
6)	6)