Name KEY Date _____ Period _____

More Properties of Equality // Flow Chart Proofs

Lesson Objective

WRITE FLOW CHART PROOFS

More Properties of Equality

Name of Property of Equality	Real Numbers	Segment Lengths	Angle Measures
Reflexive Property of Equality	$a = a$	$AB = AB$ OR $*AB = BA*$	$m\angle A = m\angle A$
Symmetric Property of Equality	IF $a = b$, THEN $b = a$	IF $AB = CD$, THEN $CD = AB$	IF $m\angle A = m\angle B$, THEN $m\angle B = m\angle A$
Transitive Property of Equality	IF $a = b$ AND $b = c$, THEN $a = c$.	IF $AB = CD$ AND $CD = EF$, THEN $AB = EF$.	IF $m\angle A = m\angle B$ AND $m\angle B = m\angle C$, THEN $m\angle A = m\angle C$.

Writing Flow Chart Proofs

A flow chart proof uses BOXES and ARROWS to show the flow of the logical argument.

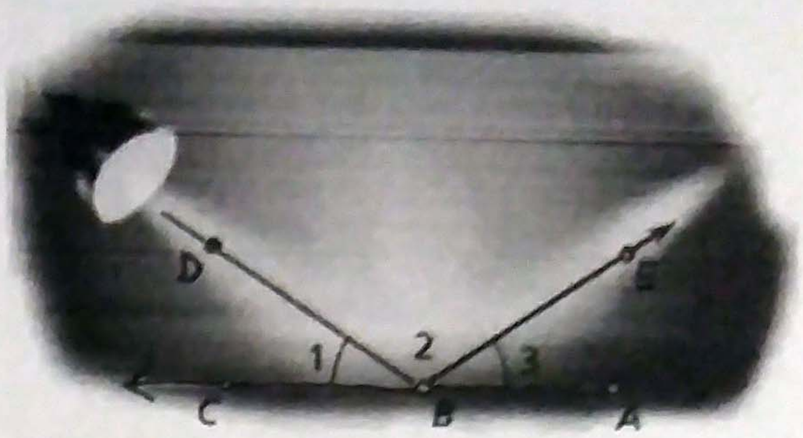
- Statements are written INSIDE the boxes
- Each reason associated with the statement is BELOW the statement it justifies.

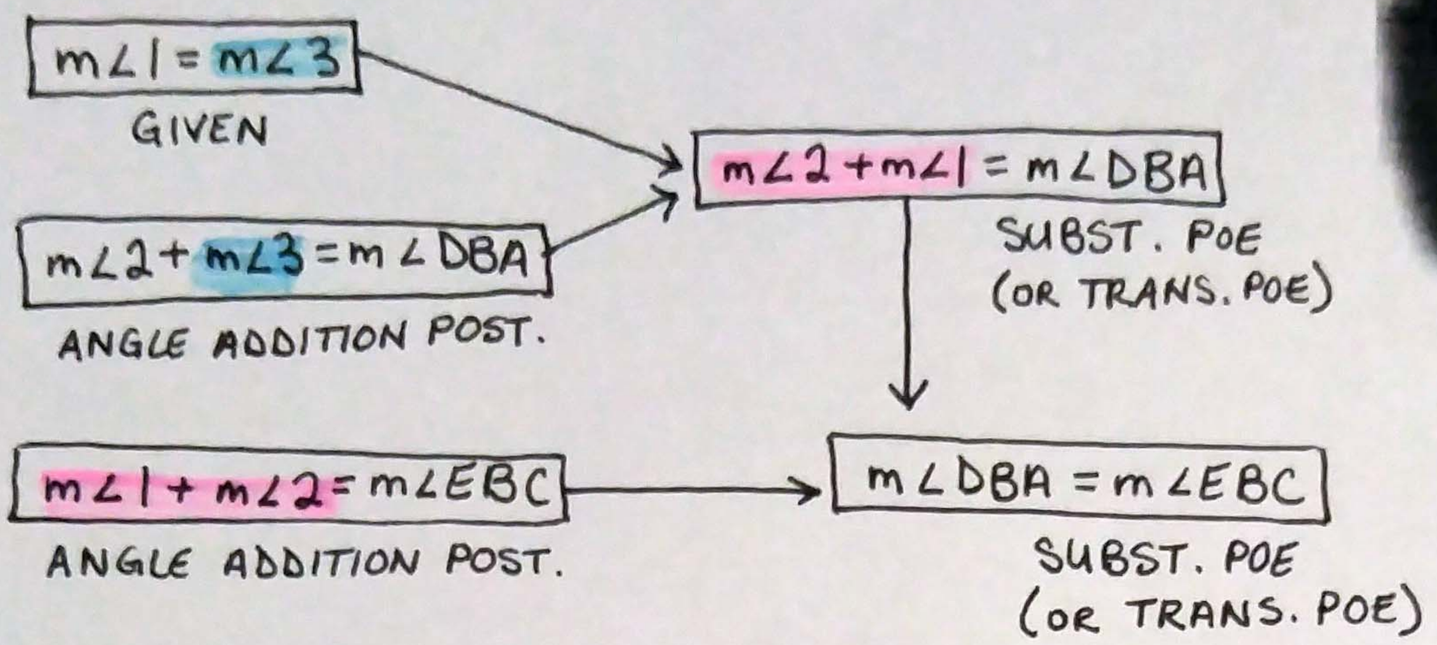
Example:

1. Solve $3x + 2 = 23 - 4x$ for x. Justify each step.

$3x+2=23-4x$
GIVEN
↓
$7x+2=23$
ADD. POE
↓
$7x=21$
SUBT. POE
↓
$x=3$
DIV. POE ✓

2. You reflect the beam of a spotlight off a mirror lying flat on a stage, as shown. Determine whether $m\angle DBA = m\angle EBC$.





3. A park, a shoe store, a pizza shop, and a movie theater are located in order on a city street. The distance between the park and the shoe store is the same distance between the pizza shop and the movie theater. Show that the distance between the park and the pizza shop is the same as the distance between the shoe store and the movie theater.