Name _____ Date _____

Proving Triangle Congruence - Guided Lesson Explanation

Explanation # 1

Side-Angle-Side Postulate (SAS) – If two sides and the included angle of a triangle are congruent to two sides and the angle of another triangle; the triangles are congruent.

$\Delta EDF \approx \Delta XYZ$

Two sides and the included angle are congruent

$\overline{ED} = \overline{XZ}$ (side)

$\angle EDF = \angle XZY$ (angle)

$\overline{DF} = \overline{ZY}$ (side)

Therefore, by the Side Angle Side (SAS) postulate, the triangles are congruent.

Explanation # 2

Angle-Side-Angle Postulate (ASA) – If two angles and the included side of a triangle are congruent to two angles and the included side of another triangle; the triangles are congruent.

$\Delta KML \approx \Delta VUW$

Two angles and the included side are congruent:

$\angle KML = \angle VUW$ (angle)

$\overline{ML} = \overline{UW}$ (side)

$\angle KLM = \angle VWV$

Therefore, by the Angle Side Angle postulate (ASA), the triangles are congruent.

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Explanation # 3

Side-Side-Side Postulate (SSS) – If three sides of a triangle are congruent to three sides of another triangle; the triangles are congruent.

$\Delta OPQ \approx \Delta STR$

All 3 sides are congruent

OP = ST (side)

PQ = TR (side)

QO = RS (side)

Therefore, by the Side-Side-Side (SSS) postulate, the triangles are congruent.