

Similarity

Proofs

Reflexive Property

Says an angle is
equal to itself (\cong)

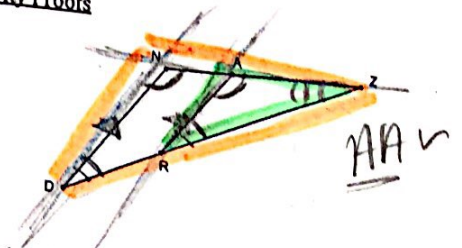
same angle

Triangle Similarity Proofs

1. Given: $\overline{ND} \parallel \overline{AR}$

Triangle Similarity Proofs

Prove: $\frac{NZ}{AZ} = \frac{DZ}{RZ}$



Statements	Justifications
$\overline{ND} \parallel \overline{AR}$	Given
$\angle Z \cong \angle Z$	Reflexive prop
$\angle A \cong \angle N$	Corr \angle s
$\angle D \cong \angle R$	Corr \angle s
$\triangle DNZ \sim \triangle RAZ$	AA \sim
$\frac{NZ}{AZ} = \frac{DZ}{RZ}$	def of \sim

Create a flowchart for this proof:

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    graph TD
      A[Given: ND || AR] --> B[Corr: angle A congruence angle N]
      A --> C[Corr: angle D congruence angle R]
      D[Reflexive: angle Z congruence angle Z] --> E[AA Similarity: triangle DNZ similar triangle RAZ]
      B --> E
      C --> E
      E --> F["Def of ~: NZ/AZ = DZ/RZ"]
  
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2. Given: $\frac{JO}{NO} = \frac{KO}{MO}$

Prove: $\angle J \cong \angle N$

Statements	Justifications
$\frac{JO}{NO} = \frac{KO}{MO}$	Given
$\angle KOJ \cong \angle MON$	Vertical \angle s
$\triangle JOK \sim \triangle NOM$	SAS \sim
$\angle J \cong \angle N$	def of \sim

Create a flowchart for this proof:

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    graph TD
      A["Given: JO/NO = KO/MO"] --> B["SAS Similarity: triangle JOK similar triangle NOM"]
      C["Vertical: angle KOJ congruence angle MON"] --> B
      B --> D["Def of ~: angle J congruence angle N"]
  
```

Congruence & Similarity

Quadratic Functions

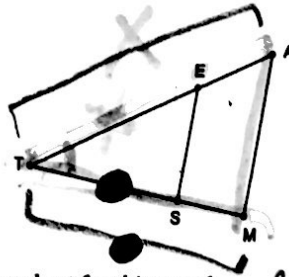
Quadratic Functions

Radical Functions

Congruence & Similarity

3. Given: $\frac{TE}{TA} = \frac{TS}{TM}$

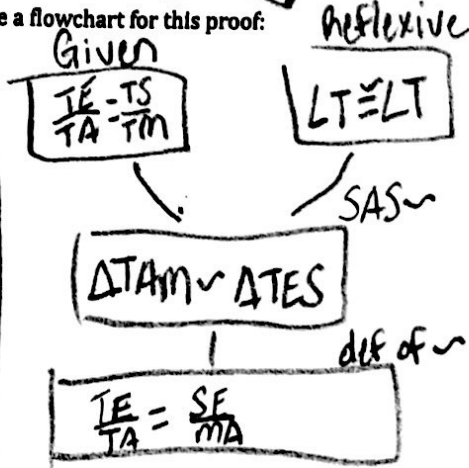
Prove: $\frac{TE}{TA} = \frac{SE}{MA}$



SASU

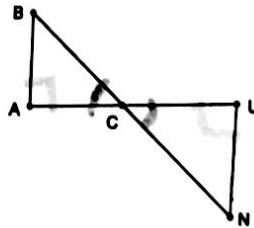
Statements	Justifications
$\frac{TE}{TA} = \frac{TS}{TM}$	Given
$\angle T \cong \angle T$	Reflexive Prop
$\triangle TAM \sim \triangle TES$	SASU
$\frac{TE}{TA} = \frac{SE}{MA}$	def of \sim

Create a flowchart for this proof:



4. Given: $\overline{AB} \perp \overline{AC}$
 $\overline{NU} \perp \overline{UC}$

Prove: $\triangle ABC \sim \triangle UNC$



Statements Justifications

Statements	Justifications
$\overline{AB} \perp \overline{AC}$	Given
$\overline{NU} \perp \overline{UC}$	Given
$\angle BAC \cong \angle CUN$	Vertical \angle s
$\angle A \cong \angle U$	def of \perp
$\angle C \cong \angle C$	def of \perp
$\angle A \cong \angle U$	def of \perp
$\triangle ABC \sim \triangle UNC$	AAU

Create a flowchart for this proof:

