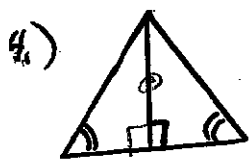


Complete the following statements. Given $\triangle PQR \cong \triangle ABC$. Match order

- 1) $\overline{RQ} = \underline{\overline{CB}}$ (or \overline{BC}) 2) $\angle Q = \underline{\angle B}$ 3) $\overline{AC} = \underline{\overline{PR}}$ (or \overline{RP})

State the postulate or theorem that can be used to prove the triangles congruent. If you cannot prove the Δ 's congruent, write not enough information. (NEI) *State the reason why you know



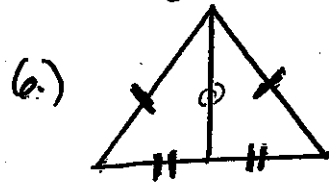
AAS

Reflexive shared side



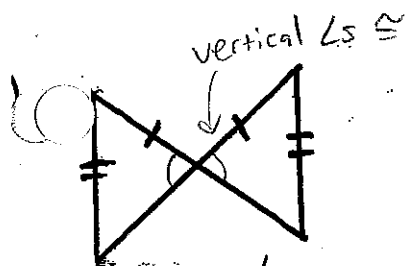
NEI

Not Same AAS or ASA



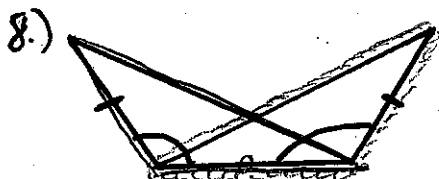
SSS

Reflexive shared side



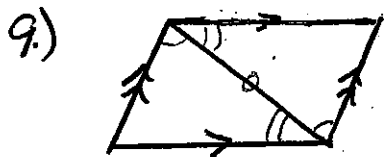
NEI

SSA is not an option



SAS

Reflexive shared side

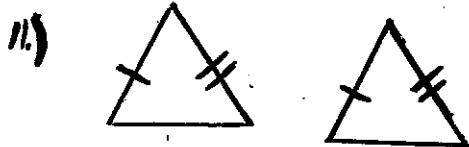


ASA

AILs \cong and Reflexive shared side

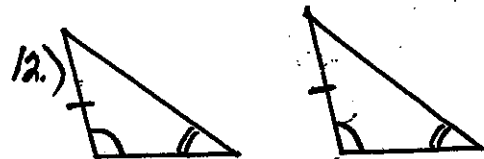


SAS

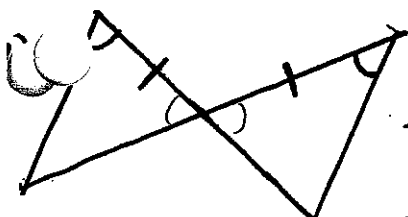


NEI

SS is not an option

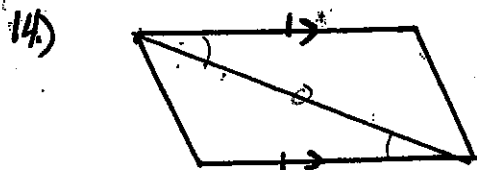


AAS



ASA

Vertical \angle s \cong



SAS

AI \angle s \cong and Reflexive shared side

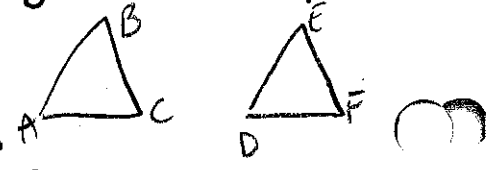
$\triangle ABC \cong \triangle DEF$. Find the measures of the given angles or the lengths of the given sides.

15) $m\angle B = 3y$; $m\angle E = 6y - 12$

$$\begin{array}{r} 3y = 6y - 12 \\ -6y \quad -6y \\ \hline -3y = -12 \\ \quad \quad \quad -3 \\ \hline y = 4 \end{array}$$

16) $BC = 3x + 2$; $EF = x + 6$

$$\begin{array}{r} 3x + 2 = x + 6 \\ -x \quad -x \\ \hline 2x + 2 = 6 \\ \quad \quad -2 \quad -2 \\ \hline 2x = 4 \\ \quad \quad \quad 2 \\ \hline x = 2 \end{array}$$



$y = 4$

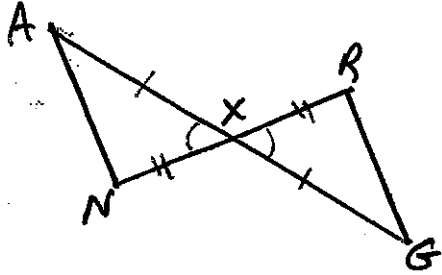
$x = 2$

$BC \cong EF$

$m\angle B = 12$ $m\angle E = 12$ $BC = 8$ $EF = 8$

$3y = 3(4) = 12$ $6y - 12 = 6(4) - 12 = 12$ $3x + 2 = 3(2) + 2 = 8$ $x + 6 = 2 + 6 = 8$

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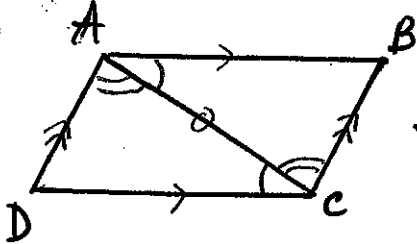


Given: x is the midpoint of \overline{AG} and \overline{NR}

Prove: $\triangle ANX \cong \triangle GRX$

Statements	Reasons
1.) x is the midpt. of \overline{AG} and \overline{NR}	1.) Given
2.) $\overline{AX} \cong \overline{GX}$ $\overline{NX} \cong \overline{RX}$	2.) If midpoint then segments \cong .
3.) $\angle AXN \cong \angle GXR$	3.) Vertical \angle s \cong
4.) $\triangle ANX \cong \triangle GRX$	4.) SAS (2, 3, 2)

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Given: $\overline{AB} \parallel \overline{DC}$, $\overline{DA} \parallel \overline{BC}$

Prove: $\triangle ABC \cong \triangle CDA$

Statements	Reasons
1.) $\overline{AB} \parallel \overline{DC}$; $\overline{DA} \parallel \overline{BC}$	1.) Given
2.) $\angle BAC \cong \angle DCA$ $\angle DAC \cong \angle BCA$	2.) Alt \angle s \cong
3.) $\overline{AC} \cong \overline{AC}$	3.) Reflexive
4.) $\triangle ABC \cong \triangle CDA$	4.) ASA (2, 3, 2)