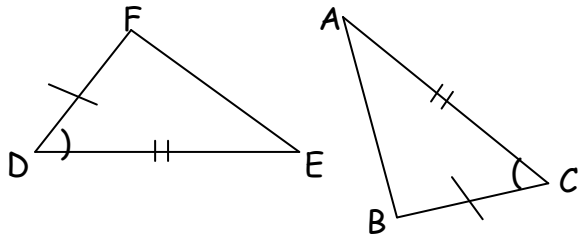
Geometry Name _____

Worksheet: Congruent Triangles SSS & SAS Date _____ Period ___

Write a congruence statement between triangles and state the postulate implied. If you cannot apply a postulate, write "no conclusion can be made."

1. 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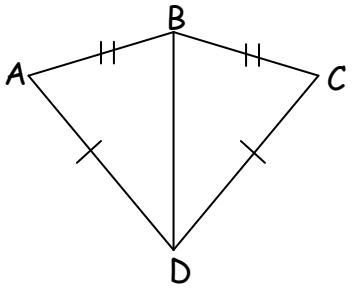
by _____

2. 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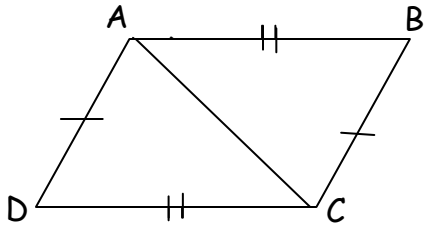
3. 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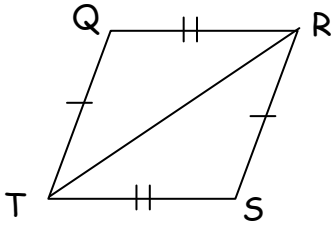
4. 


_____

by _____

Name the included angle of the given sides of the triangle:

5. $\Delta JKL$: A) $\overline{JK}$ and $\overline{KL}$

_____

B) $\overline{LJ}$ and $\overline{JK}$

_____

6. $\Delta QRS$: A) $\overline{QR}$ and $\overline{RS}$

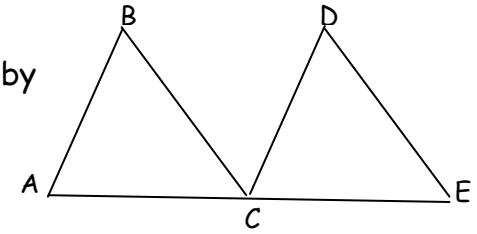
_____

B) $\overline{SQ}$ and $\overline{QR}$

_____

7. Assume that $\overline{AB} \cong \overline{CD}$ and $\overline{BC} \cong \overline{DE}$. What additional Information would you need to prove that $\Delta ABC \cong \Delta CDE$ by SSS? _____

8. Assume that $\overline{AB} \cong \overline{CD}$ and $\overline{BC} \cong \overline{DE}$. What additional Information would you need to prove that $\Delta ABC \cong \Delta CDE$ by SAS? _____



Draw a picture of the two given triangles and then mark congruent parts. Then use the information to set up an equation and find your answer.

7. $\Delta CDE \cong \Delta FGH$, m<G = (x + 17)°, m<E = (19 – x)°, m<H = (27 – 2x)°, GH = 39 – 3x. Find DE.

8. $\Delta RST \cong \Delta XYZ$, m<R = (11x – 1)°, m<X = (9x + 5)°, and RT = 7x + 5. Find XZ.

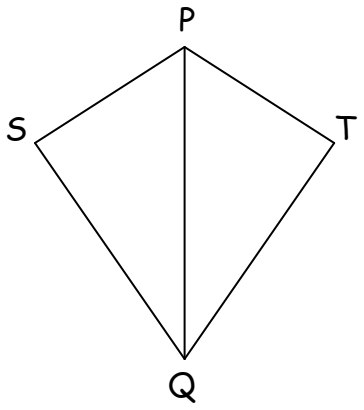
9. $\Delta JKL \cong \Delta MNO$, m<K = (3x + 7)°, m<N = (2x + 24)°, m<L = (5x – 42)°, and m<O = (4x – 25)°. Find the measure of <M.

10. Complete the following proof:

Given: $\overline{PQ}$ bisects <SPT

$\overline{SP} \cong \overline{PT}$

Prove: $\Delta SPQ \cong \Delta TPQ$




| Statements | Reasons |
|---|---|
| 1. $\overline{PQ}$ bisects <SPT | 1. _____ |
| 2. _____ | 2. def. of angle bisector |
| 3. _____ | 3. Given |
| 4. _____ | 4. Reflexive Property |
| 5. $\Delta SPQ \cong \Delta TPQ$ | 5. _____ |