Name_____ Date_____

Triangle Proofs

Complete the following proofs.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

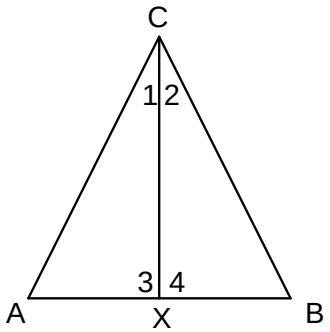
7. _____ ≅ _____

8. _____

9. _____

10. _____

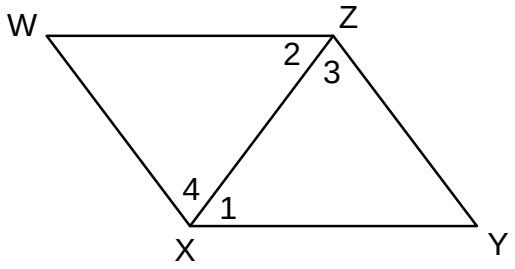
For 1 thru 10



Given: $\angle 1 \cong \angle 2$; $\angle 3 \cong \angle 4$

Prove: $\overline{AC} \cong \overline{BC}$

For 11 thru 20



Given: $\overline{XY} \cong \overline{ZW}$; $\angle 1 \cong \angle 2$

Prove: $\overline{XW} \cong \overline{ZY}$

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____ ≅ _____

18. _____

19. _____

20. _____

21.

22. _____

23. _____

24. _____

25. _____

26. _____

27. _____

28. _____

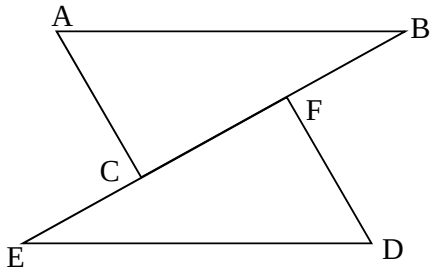
29. _____ ≅ _____

30._____

31. _____

32._____

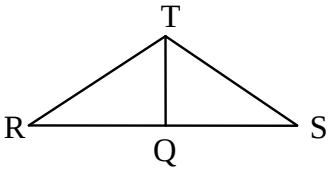
For 21 thru 32



Given: $\overline{AB} \cong \overline{DE}$; $\overline{BC} \cong \overline{EF}$, $\overline{AB} \parallel \overline{DE}$

Prove: $\overline{CA} \cong \overline{FD}$

For 33 thru 44



Given: $\overline{TQ}$ bisects ∠RTS; ∠R ≅ ∠S

Prove: $\overline{RQ} \cong \overline{QS}$

33.

34. _____

35. _____

36. _____

37. _____

38. _____

39. _____

40. _____

41. _____ ≅ _____

42._____

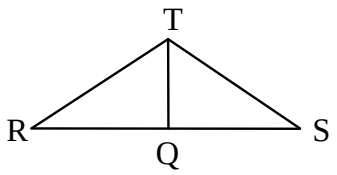
43. _____

44._____

45) Given: $\overline{RT} \cong \overline{TS}$

$\angle RTQ \cong \angle STQ$

Prove: $\overline{RQ} \cong \overline{QS}$

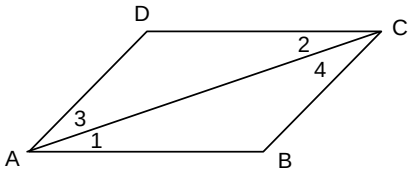


Statement	Reasons

46) Given: $\overline{AB} \cong \overline{CD}$

$\overline{AD} \cong \overline{CB}$

Prove: $\overline{DC} \parallel \overline{AB}$

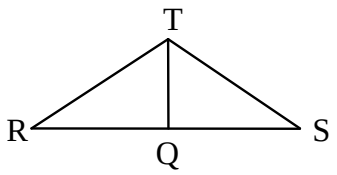


Statement	Reasons

47) Given: Q is the midpoint of $\overline{RS}$

$\angle RQT \cong \angle SQT$

Prove: $\angle TRQ \cong \angle TSQ$

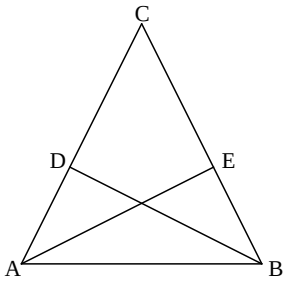


Statement	Reasons

48) Given: $\overline{AD} \cong \overline{BE}$

$\angle DAB \cong \angle EBA$

Prove: $\overline{BD} \cong \overline{AE}$

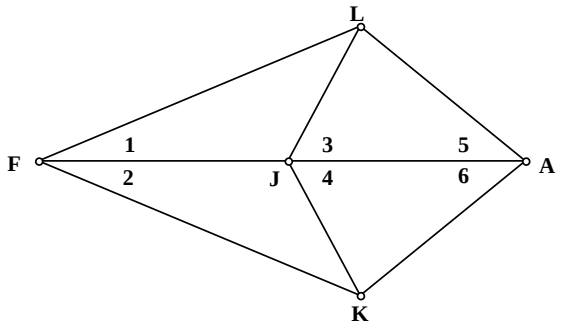


Statement	Reasons

49) Given: $\overline{FL} \cong \overline{FK}$

$\overline{LA} \cong \overline{KA}$

Prove: $\overline{LJ} \cong \overline{KJ}$



Statement	Reasons