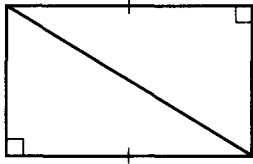


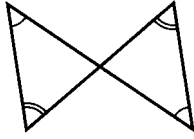
Geometry – Chapter 4 Review Sheet: Congruent Triangles

State the postulate or theorem you would use to prove each pair of triangles congruent. If the triangles can not be proved congruent, write *not possible*.

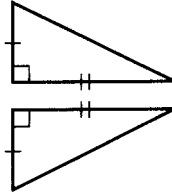
1.



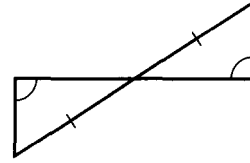
2.



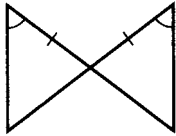
3.



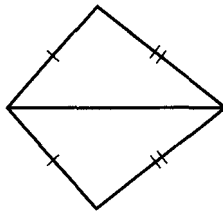
4.



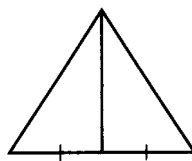
5.



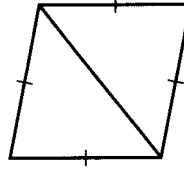
6.



7.

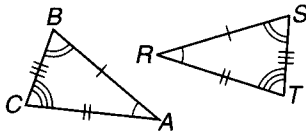


8.

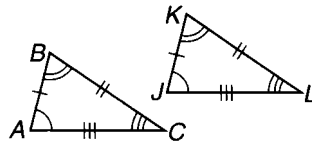


Write a congruence statement for each pair of triangles.

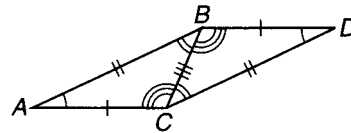
9.



10.

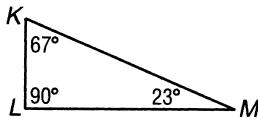


11.

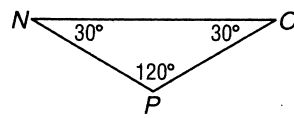


Identify each triangle as acute, right or obtuse.

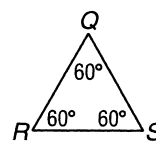
12.



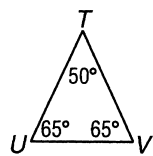
13.



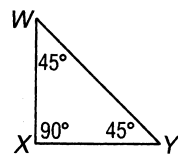
14.



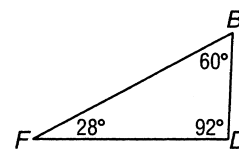
15.



16.

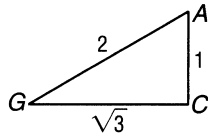


17.

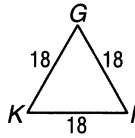


Identify each triangle as scalene, isosceles, or equilateral.

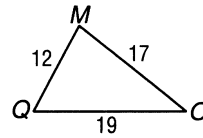
18.



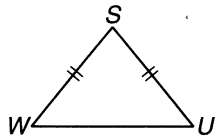
19.



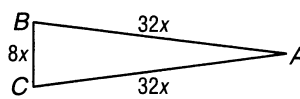
20.



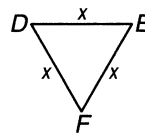
21.



22.

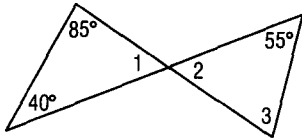


23.

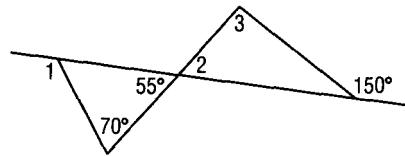


Find the measure of each numbered angle

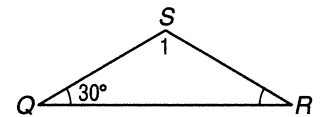
24.



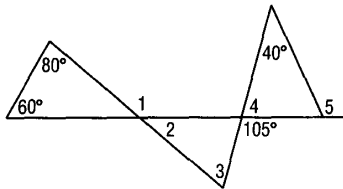
25.



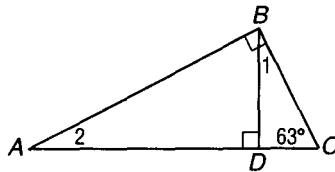
26.



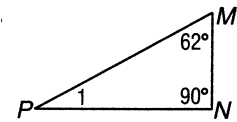
27.



28.



29.

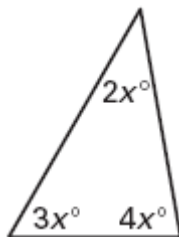


30. If $\triangle DEF$ is isosceles, $\angle E$ is the vertex, and $DE = 4x + 12$, $EF = 7x - 9$. Find x and the length of the legs.

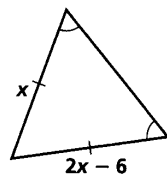
31. $\triangle FGH$ is equilateral with $FG = x + 5$, $GH = 3x - 9$, and $FH = 2x - 2$. Find the value of x and the lengths of the sides of the triangle.

Find the value for each variable.

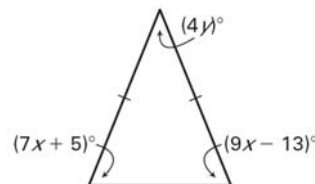
32.



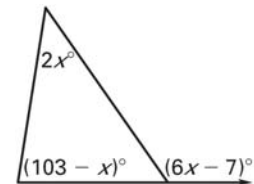
33.



34.



35.



Geometry – Chapter 4 Review Sheet: Congruent Triangles - ANSWERS

1. HL	2. not possible	3. SAS	4. AAS
5. ASA	6. SSS	7. not possible	8. SSS

9. $\triangle ABC \cong \triangle RST$	10. $\triangle ABC \cong \triangle JKL$	11. $\triangle ABC \cong \triangle DCB$
--	---	---

12. right	13. obtuse	14. acute
15. acute	16. right	17. obtuse

18. scalene	19. equilateral	20. scalene
21. isosceles	22. isosceles	23. equilateral

24. $\angle 1=55, \angle 2=55, \angle 3=70$	25. $\angle 1=125, \angle 2=55, \angle 3=95$	26. $\angle 1=120$
27. $\angle 1=140, \angle 2=55, \angle 3=65, \angle 4=75, \angle 5=115$	28. $\angle 1=27, \angle 2=27$	29. $\angle 1=28$

30. Since the triangle is isosceles, $DE = EF$. So $4x + 12 = 7x - 9$. Solving, we get $x = 7$. Substituting 7 in for x , we get that each leg is 40.

31. Since the triangle is equilateral, all 3 sides are congruent. So $x + 5 = 3x - 9$. Solving, we get $x = 7$. Substituting 7 in for x , we get that each side is 12.

32. $3x + 2x + 4x = 180$. Solving the equation results in $x = 20$.

33. Triangle is isosceles, so $x = 2x - 6$. Solving the equation results in $x = 6$.

34. Triangle is isosceles, so base angles are congruent. Thus $7x + 5 = 9x - 13$. Solving the equation results in $x = 9$. This makes each angle 68. Then $4y + 68 + 68 = 180$ and $y = 11$.

35. The exterior angle is equal to the sum of the two nonadjacent interior angles. So $6x - 7 = 2x + 103 - x$. Solving the equation results in $x = 22$.