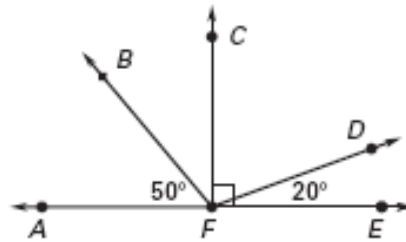


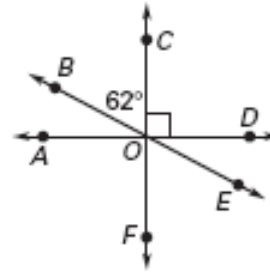
**Find the measure of the unknown angle.**

1.  $m\angle CFD =$  \_\_\_\_\_
2.  $m\angle BFC =$  \_\_\_\_\_
3.  $m\angle AFD =$  \_\_\_\_\_
4.  $m\angle BFE =$  \_\_\_\_\_



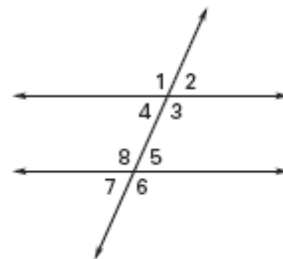
**Find the measure of the angle.**

5.  $m\angle AOB$  \_\_\_\_\_
6.  $m\angle DOE$  \_\_\_\_\_
7.  $m\angle EOF$  \_\_\_\_\_
8.  $m\angle BOF$  \_\_\_\_\_

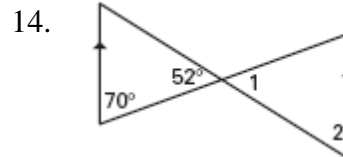
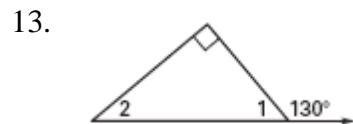


**Complete the statement with *corresponding*, *alternate interior*, *alternate exterior*, or *consecutive interior angles*.**

9.  $\angle 1$  and  $\angle 6$  are \_\_\_\_\_
10.  $\angle 4$  and  $\angle 8$  are \_\_\_\_\_
11.  $\angle 2$  and  $\angle 5$  are \_\_\_\_\_
12.  $\angle 3$  and  $\angle 8$  are \_\_\_\_\_

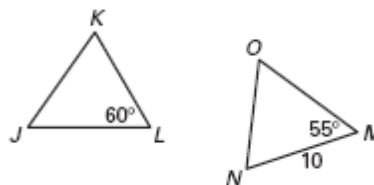


**Find the measure of the numbered angles.**



**In the diagram,  $\triangle JKL \cong \triangle MNO$ . Complete the statement.**

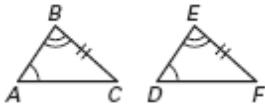
15.  $\angle N \cong$  \_\_\_\_\_
16.  $JK =$  \_\_\_\_\_
17.  $m\angle K =$  \_\_\_\_\_



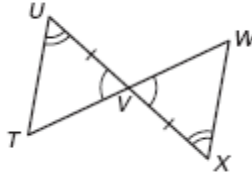
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State the conjecture used to prove the triangles are congruent.

18.



19.



Complete the statement using  $\triangle DEF$  where L, M and N are midpoints of each side.

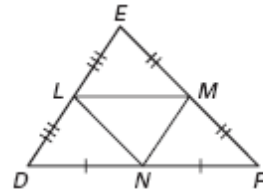
20.  $\overline{LN} \parallel$  \_\_\_\_\_

21.  $\overline{MN} \parallel$  \_\_\_\_\_

22. If  $DF = 26$ , then  $LM =$  \_\_\_\_\_

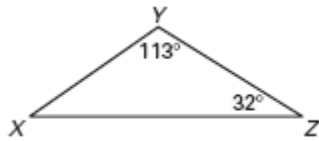
23. If  $EM = 10$ , then  $LN =$  \_\_\_\_\_

24. If perimeter of  $\triangle DEF = 60$ , then perimeter of  $\triangle LMN =$  \_\_\_\_\_

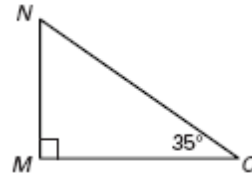


Name the shortest and longest side of the triangle.

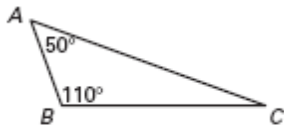
25.



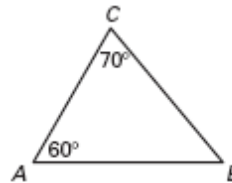
26.



27.



28.



29. Determine if the measures can form the sides of a triangle.

a. 70, 79, 18

b. 72, 5, 77

c. 14, 90, 25

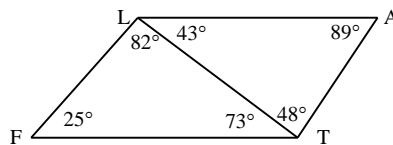
30. Given 2 sides of triangle, between what 2 numbers must the measure of 3<sup>rd</sup> side fall.

a. 37 and 16

b. 5 and 23

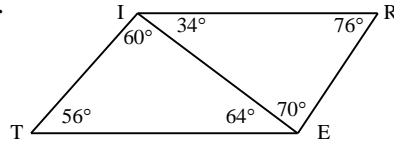
c. 41 and 28

31. What is the longest side in the figure.

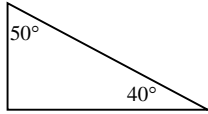


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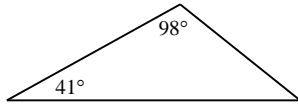
32. What is the longest side in the figure.



33. Classify the triangle below by its angles and sides.



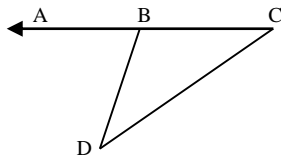
34. Classify the triangle below by its angles and sides.



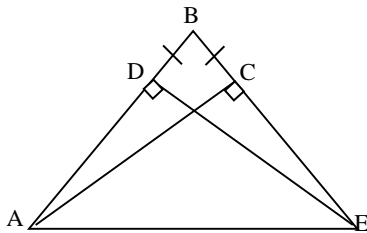
35. In  $\triangle ABC$ ,  $m\angle A = m\angle B = m\angle C$ , classify the triangle by its angles and sides.

36. In isosceles triangle,  $\triangle GHI$ ,  $\angle I$  is the vertex angle and  $m\angle G = 72^\circ$ . Find  $m\angle I$ .

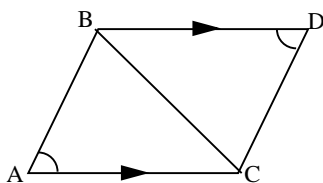
37. In the figure below,  $m\angle ABD = (7x + 9)^\circ$ ,  $m\angle D = (6x)^\circ$ , and  $m\angle C = (42 - 2x)^\circ$ . Find  $x$ .



38. Complete the congruence statement,  $\triangle ABC \cong$  \_\_\_\_\_ by \_\_\_\_\_.

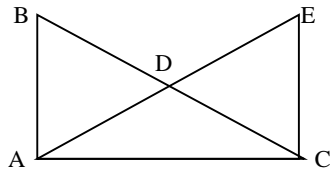


39. Complete the congruence statement,  $\triangle ABC \cong$  \_\_\_\_\_ by \_\_\_\_\_.



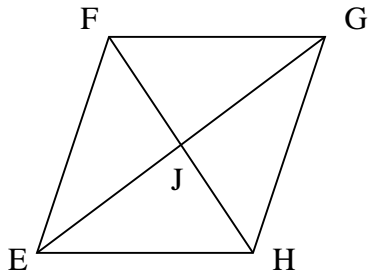
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40. Complete the congruence statement if  $\triangle ADC$  is an isosceles triangle with vertex angle,  $\angle D$ , and  $\overline{AE} \cong \overline{CB}$ .  $\triangle ABC \cong$  \_\_\_\_\_ by \_\_\_\_\_ and  $\overline{BA} \cong \overline{EC}$  by \_\_\_\_\_



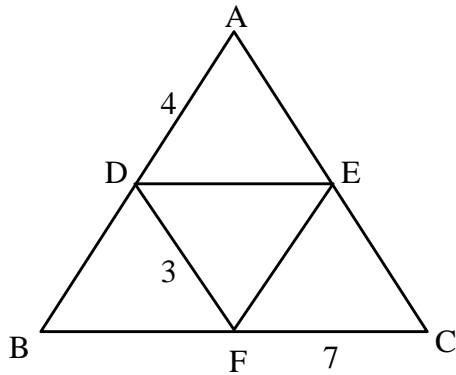
41. ABCD is a parallelogram.  $m\angle B = (13x + 27)^\circ$ ,  $m\angle C = 49^\circ$ . Find x.

42. If EFGH is a parallelogram, complete each statement.



- a)  $\angle FEH \cong$  \_\_\_\_\_  
 b)  $FG =$  \_\_\_\_\_  
 c)  $FJ =$  \_\_\_\_\_  
 d)  $\angle HEG \cong$  \_\_\_\_\_  
 e)  $m\angle GFE +$  \_\_\_\_\_  $= 180$

43. ABC is a triangle with three midsegments.



Perimeter of  $\triangle ABC$  \_\_\_\_\_

Perimeter of  $\triangle DEF$  \_\_\_\_\_

44.  $x =$  \_\_\_\_\_

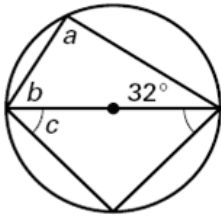


45.  $x =$  \_\_\_\_\_

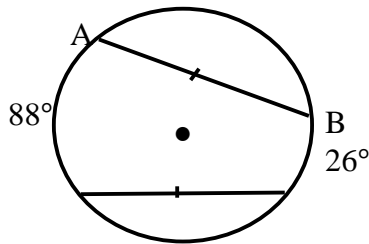


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46.  $a =$  \_\_\_\_\_  $b =$  \_\_\_\_\_  $c =$  \_\_\_\_\_

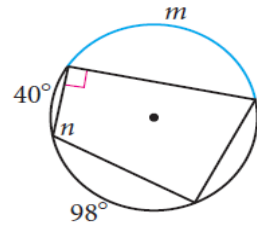


47.  $m \angle AB =$  \_\_\_\_\_

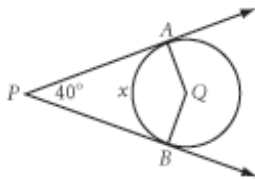


48.  $m =$  \_\_\_\_\_

$n =$  \_\_\_\_\_



49.  $x =$  \_\_\_\_\_



50. Write the equation of the line (in slope intercept form) that passes through the given point and parallel/perpendicular to the given line.

a.  $(8, -3)$ ; parallel to  $y = \frac{3}{4}x - 7$

b.  $(-12, 3)$ ; perpendicular to  $y = -\frac{2}{3}x + 4$

51. a. To construct a circumscribed circle, you must locate the \_\_\_\_\_.

b. To construct an inscribed circle, you must locate the \_\_\_\_\_.

c. The tangent to a circle is \_\_\_\_\_ to the radius drawn to the point of tangency.

d. What are the 4 triangle congruence shortcuts? \_\_\_\_\_.

e. What do you call lines that are NOT in the same plane and do not intersect? \_\_\_\_\_.

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ANSWERS: MAKE SURE YOU SHOW YOUR WORK

1. 70
2. 40
3. 160
4. 130
5. 28
6. 28
7. 62
8. 118
9. Alternate Exterior Angles
10. Consecutive Interior Angles
11. Corresponding Angles
12. Alternate Interior Angles
13. 1 = 50, 2 = 40
14. 1 = 52, 2 = 58
15. Angle K
16. MN or 10
17. 65
18. SAA
19. ASA
20. EF
21. ED
22. 13
23. 10
24. 30
25. Shortest = XY, longest = XZ
26. Shortest NM, longest NO
27. Shortest AB, longest AC
28. Shortest AC, longest AB
29. a. yes, b. no, c. no
30. a. 21-53, b. 18-28, c. 13-69
31. FT
32. TI
33. Right, Scalene
34. Obtuse, Isosceles
35. Regular, equilateral, or equiangular
36. 36
37. 11
38.  $\triangle EBD$  by ASA
39.  $\triangle DCB$  by SAA
40.  $\triangle CEA$  by SAS
41. 8
42. a. angle FGH, b. EH, c. JH, d. angle FGE, e. angle FGH or angle HEF
43. P of ABC = 28, P of DEF = 14
44.  $x = 7$
45.  $x = 23.5$
46.  $a = 90$ ,  $b = 58$ ,  $c = 45$
47. 123
48.  $m = 140$ ,  $n = 111$
49.  $x = 140$
50. a.  $y = \frac{3}{4}x - 9$ , b.  $y = \frac{3}{2}x + 21$
51. a. circumcenter  
b. incenter  
c. perpendicular  
d. SSS, SAS, ASA, AAS  
e. skew