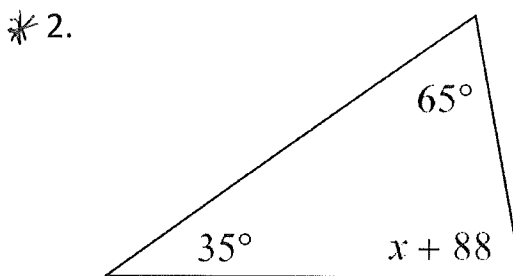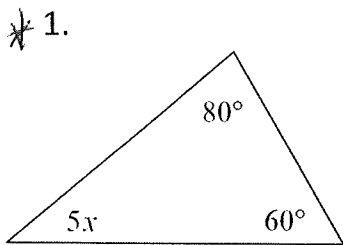Name: _____ Date: _____ Hr: _____

Triangle Review 2014
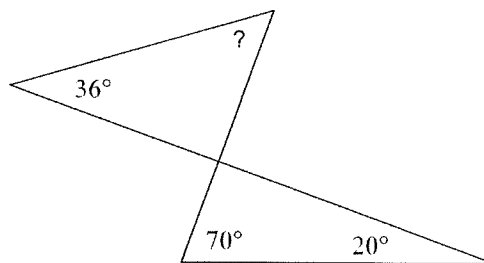
Directions: Find x.

＊ *Show work &*
plug in angles!

＊ 1.

80°

5x   60°

＊ 2.

65°

35°   x + 88

＊ 3. Find the measure of the missing angle.
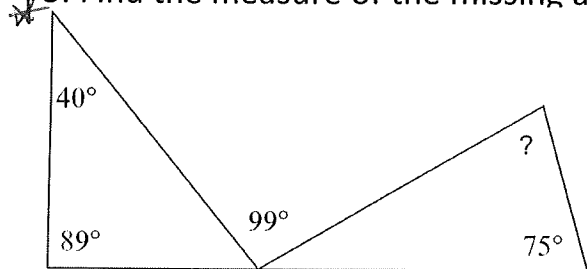
40°

89°   99°

?

75°

＊ 4. Find the measure of the missing angle.

?

36°

70°   20°

5. Find the measure of the missing angle.

J

A

120°

?   93°

C

B

＊ 6. Solve for x.

G   E   Q

10x − 2   14x − 8

30°

F
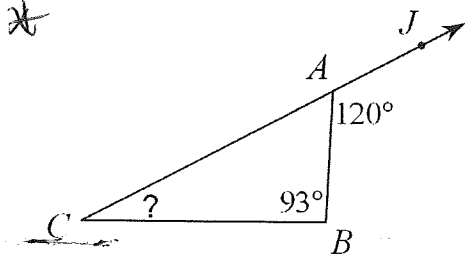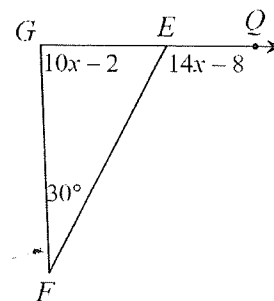
Directions: Draw, mark and label the figure, solve for the missing variable, and find the lengths of each side.

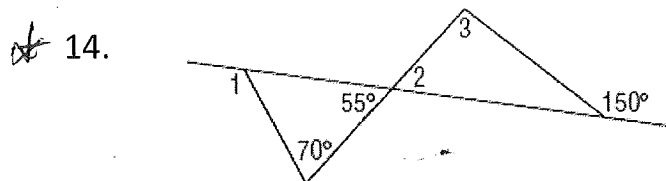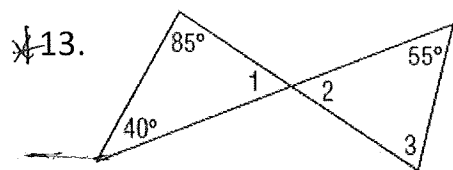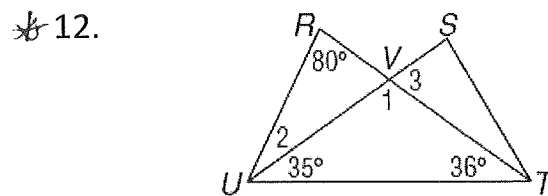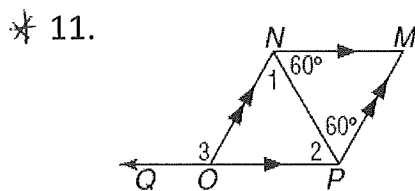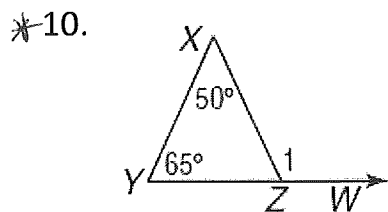＊ 7. Find the measure of each side of equilateral $\triangle RST$ with $RS = 2x + 2$, $ST = 3x$, and $TR = 5x - 4$.

✳8. Find the measure of each side of isosceles $\triangle ABC$ with $AB = BC$ if $AB = 4y$, $BC = 3y + 2$, and $AC = 3y$.
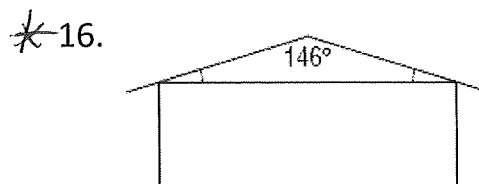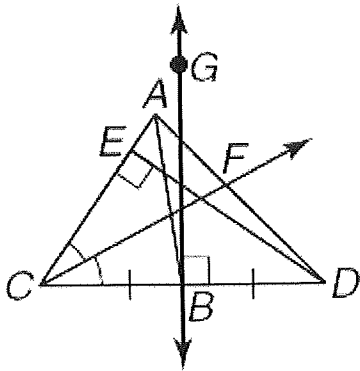
9. Find the missing coordinates of each triangle.
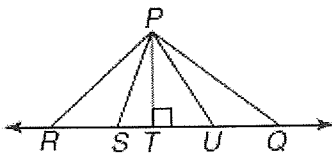

Find the measures of the numbered angles.

✳10.

✳ 11.

✳12.

✳13.

✳ 14.
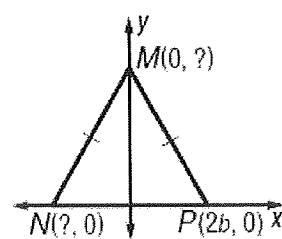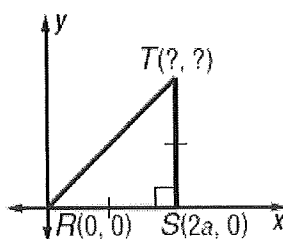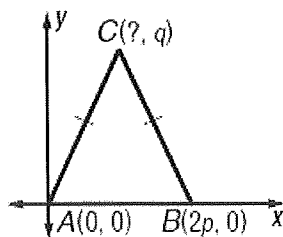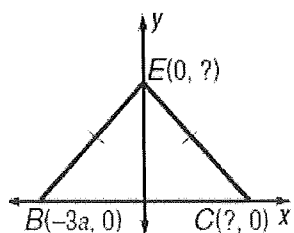
Find all missing angle measures.

✳15.

✳16.

17. Highlight and name the median of the triangle.

18. Name the shortest distance from P to RQ.

19. SPORTS The figure shows the position of three trees on one part of a Frisbee™ course. At which tree position is the angle between the trees the greatest?

40 ft   37.5 ft
53 ft
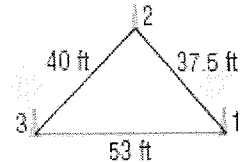
20. List the angles from least to greatest.

6 cm   7 cm
9 cm
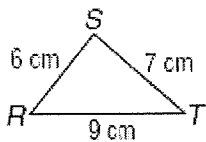
21. List the side lengths from greatest to least.

35°
20°   125°
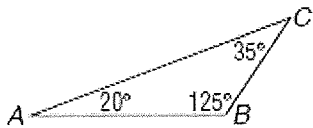
22. Do the following lengths form a triangle 4, 6, 16. Why or why not?

23. Find the range for the measure of the third side given two sides of the triangle are 12 and 19.

24. Given the following triangle with median MK state if the following statements are true or false.

    a. $m < MKA = 90°$

    b. $BK \cong AK$

    c. $m < BMK = m < AMK$

    d. ΔBMA is isosceles with vertex angle M.
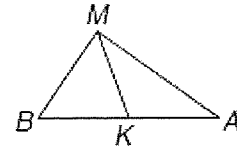
25. Classify the triangle by its sides and angles given the two angle measure are 61° and 29°.

26. Classify the triangle by its sides and angles given the two angle measure are 12° and 84°.

27. If in an isosceles triangle, the vertex angle is 5 more than 3 times the measure of one of the base angles, find the measures of EVERY angle. Show all work and algebraic set up.
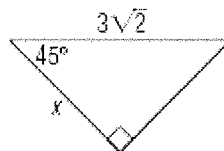
28. CONSTRUCTION The bottom end of a ramp at a warehouse is 10 feet from the base of the main dock and is 11 feet long. How high is the dock?
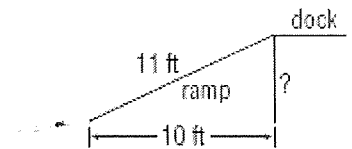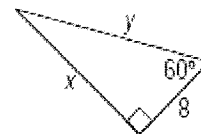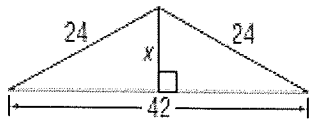

29. Find the value of x.
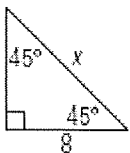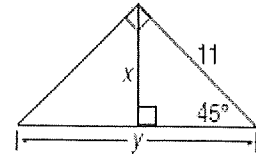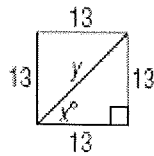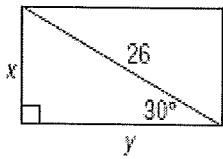

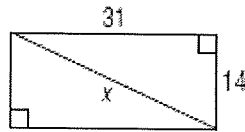30.   Find the value of x.

31. Find the value of x and y.

32. Find the value of x.

24   24
x
□
42

33. Find the value of x and y.

13
13 [y / $x°$] 13
13

34. Find the value of x and y.

11
x
45°
y

35. Find the value of x and y.

x
26
30°
y

36. Find the value of x.

31
x
14

37. Find the value of x and y.

y   x
60°
3.5
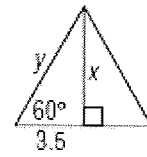
38. BOTANICAL GARDENS One of the displays at a botanical garden is an herb garden planted in the shape of a square. The square measures 6 yards on each side. Visitors can view the herbs from a diagonal pathway through the garden. How long is the pathway?

6 yd
6 yd   6 yd
6 yd

39. MEDIAN IF LJ is the median of ΔIJK, find x.

J
I
3x + 10   L   2x + 42   K
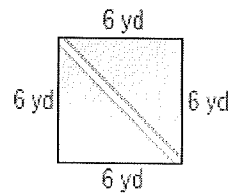
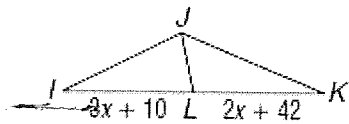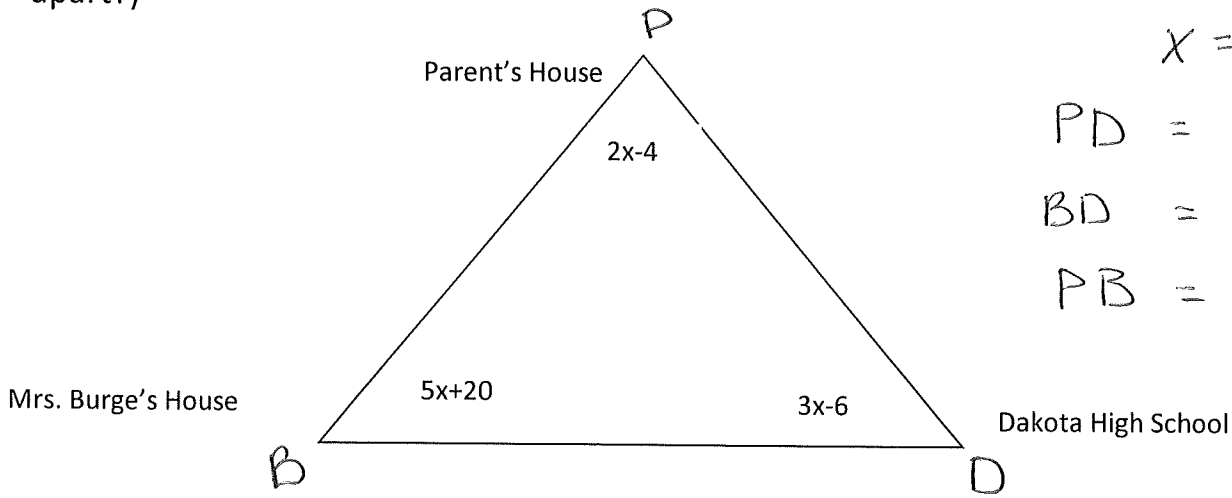40. **ROUTE** Mrs. Burge's House, her Parent's House, and Dakota High school form a triangle on a map. What route would have the longest drive? (i.e. Which two buildings are farthest apart?)
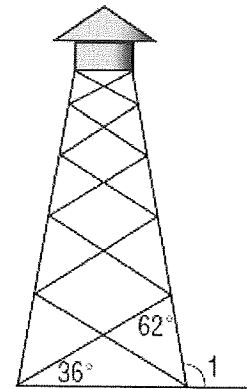
Parent's House

P

2x-4

Mrs. Burge's House

5x+20

3x-6

Dakota High School

B

D

$X =$ _____

$PD =$ _____

$BD =$ _____

$PB =$ _____

41. **TOWERS** A lookout tower sits on a network of struts and posts. Leslie measured 2 angles on the tower, find the measure of <1.

62°

36°

1

42. **PATHS** Rachel walks around a triangular path. At each corner, she records the measure of the angle she creates. She makes one complete circuit around the path. What is the sum of the three angle measure that she wrote down during one complete circuit?
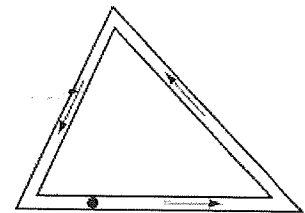
43. **CRAZY ANGLES!** Find the measures of the numbered angles.

2

5

3 70°
4

118°

1

36°

65°

6

68°

82°
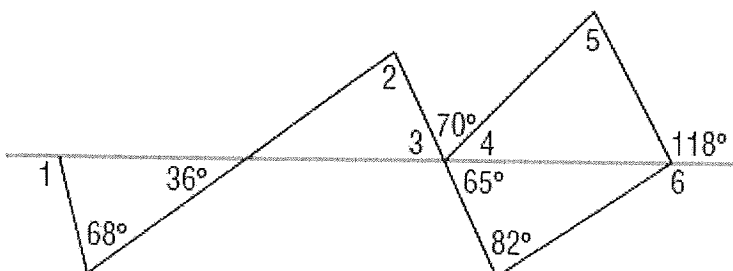
44. BOOKENDS Two bookends are shaped like right triangles. The bottom side of each triangle is exactly half as long as the slanted hypotenuse of the triangle. If all the book between the bookends are removed and they are pushed together, they will form a single triangle. Classify the triangle that will be formed as equilateral, isosceles or scalene.
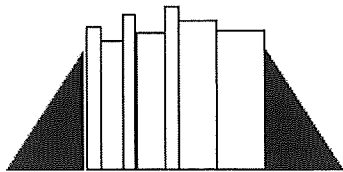
45. ΔXRP is isosceles with vertex < PXR. m<PSR = 31°,
m<XPT = 24°, m<RTP = 103°.

(a) Name the legs of the isosceles triangle.

(b) Name the base angles of the isosceles triangle.

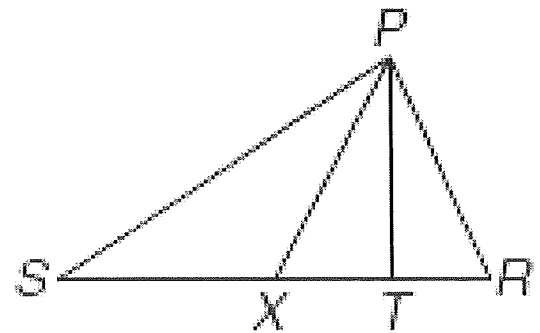*(c) Find the measures of the following angles:*

m<SXP = _____   m<SPX = _____   m<PTX = _____

m<PXT = _____   m<TPR = _____   m<SRP = _____

46. Find the measures of the side of ΔKPL and classify the triangle by its sides.
K(-4,3), P(1,2), L(-3,-2)

$KP =$ _____
$PL =$ _____
$KL =$ _____
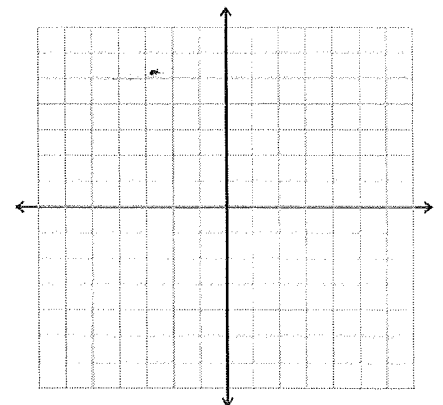
Conclude:

47. Find the measures of the side of ΔABC and classify the triangle by its sides.

A(-9, -7), B(-6, -3), C(-5, -6)
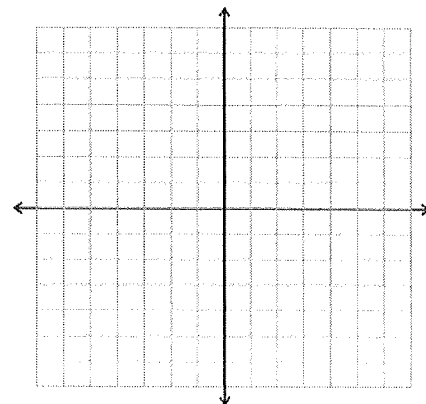
$AB =$ _____

$BC =$ _____
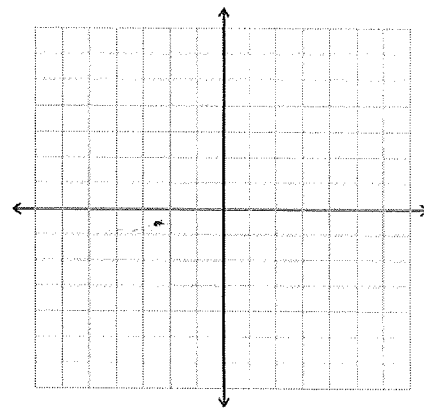
$AC =$ _____

Conclude:

48. Find the measures of the side of ΔRST and classify the triangle by its sides.

R(2,4), S(4,7), T(6,4)

$RS =$ _____

$ST =$ _____

$RT =$ _____

Conclude: