Name _____ Period _____

$$\boxed{\diagup + \underline{\qquad} = \diagup}$$

Chapter 7 REVIEW Show work. **Round to the nearest tenth if necessary.**
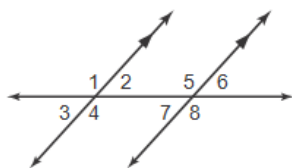

Use the figure to the left to solve #1 & 2.

1. If $m \angle 1 = 110°$, find $m \angle 7$.   **2.** If $m \angle 6 = 70°$, find $m \angle 5$.

Use the figure below for #3-6. Classify the relationship between the pairs of angles. Explain.
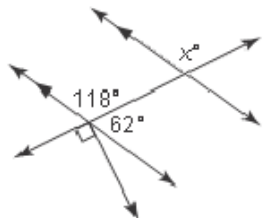

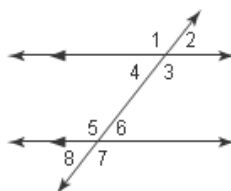3) $\angle 1$ and $\angle 4$ 4) $\angle 4$ and $\angle 5$

5) $\angle 3$ and $\angle 7$ 6) $\angle 8$ and $\angle 1$
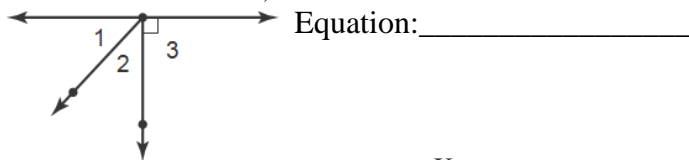
7) What is the value of x in the figure below?

8) Which pair of angles is *not* congruent?

A) ∠1 and ∠7

B) ∠3 and ∠5

C) ∠4 and ∠6

D) ∠2 and ∠5

9) In the figure below, m∠1 = x and ∠2 = x – 4. Write an equation for the value of ∠1 and ∠2 that can be used to solve for x. Then, solve for the value of x?

Equation:_____

X = _____

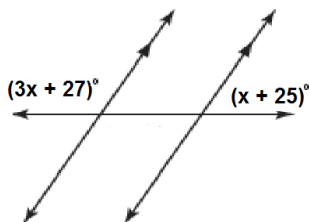10) Find the value of ∠5 if m∠2 =75°
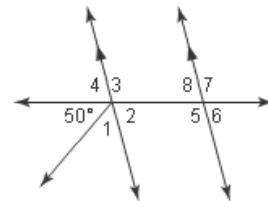
Find the value of x in the figures below.
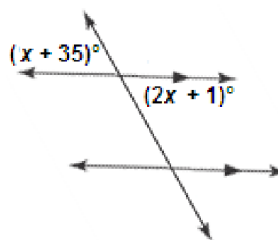
11)

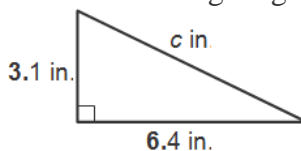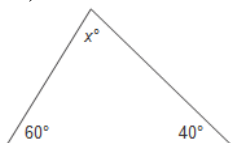$(3x + 27)°$ $(x + 25)°$

12)

$(x + 35)°$

$(2x + 1)°$

13) A right triangle has an acute angle that measures 42°. What are the measures of the other angles?

14) Find the missing length.
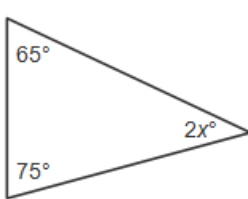

3.1 in.   c in.

6.4 in.

15) What is the value of x in the triangle below?

60°   40°

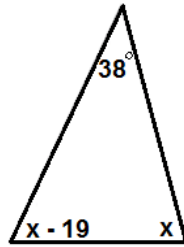16) In a right triangle, a = 4.5 inches and c = 7.5 inches. Find b.

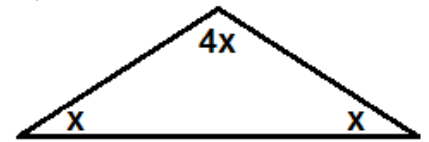What is the value of x in the triangles below?

17)

18)

19)

20) What is true about the sum of the measures of any two non–right angles in a right triangle?

21) What is true about angles in an equilateral triangle?

22) In a right triangle, b = 7.1 units and c = 11.3 units. Find a.

23) A triangle has angles measuring 25° and 45°. What is the measure of the triangle's third angle?

24) A ladder is placed against a house and reaches a second story window that is 12 feet from the ground. The base of the ladder is 9 feet from the house. How long is the ladder?

25) Sabrina's flying disc was stuck in a tree. In order to get the flying disc down, she used a 25-foot ladder positioned 8 feet from the base of the tree. How high was the flying disc?

26) How far up the house is the ladder resting?

27) A unit on the grid of a map of City Zoo is 0.02 miles. Find the distance between the monkey exhibit at (-4,4) and the lion exhibit at (2,-3).
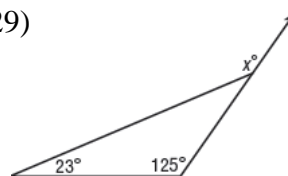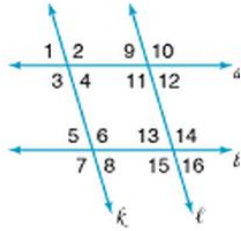Round to the hundredths place.
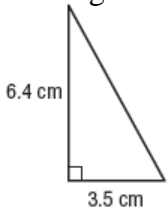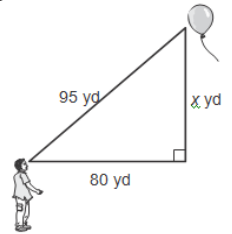

Find the value of x in the triangles below.

28)

29)

30) Name the term that describes ∠11 and ∠15.

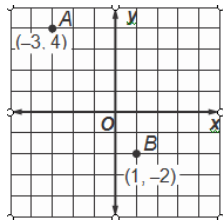31) Name the term that describes ∠2 and ∠7.

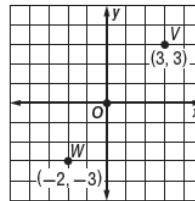32) What is the length of the hypotenuse of the triangle below?

6.4 cm

3.5 cm

33) In the diagram, Jorge let go of the string tied to his balloon. Write and solve an equation to find how far above Jorge's head the balloon is

95 yd

x yd

80 yd

34) What is the distance between points A(-3,4) & B(1, -2)?

35) What is the distance between points V(3,3) and W(-2, -3)?
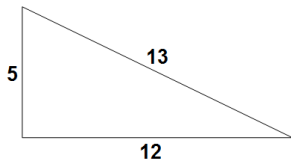

Determine whether each set of measures can be the measures of the sides of a right triangle. Show work for credit.

36)

13

5

12

37)   10, 14, 7

38)   12, 16, 20

Use the Distance Formula to find the distance between the pair of points.

39) (-3, -8), (-9, 2)
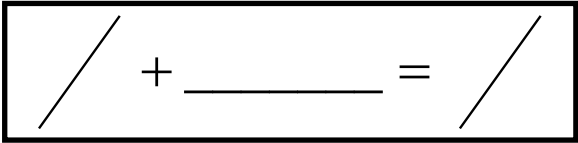
40) (-0.7, 3.2), (1.8, 1.9)

41) (2, 11), (−7, 9)

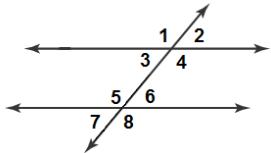42) $\left(\frac{2}{3}, -1\right), \left(\frac{1}{3}, 4\right)$

43) Explain how the diagram below demonstrates the Pythagorean Theorem for a right triangle with legs of length 4 & 5.
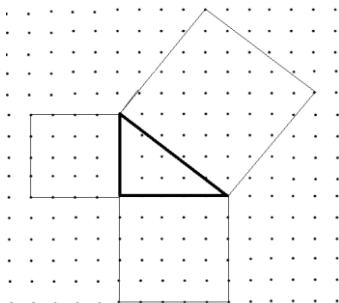
Name ____**KEY**_____ Period _____

Chapter 7 REVIEW Show work. **Round to the nearest tenth if necessary.**

Use the figure to the left to solve #1 & 2.

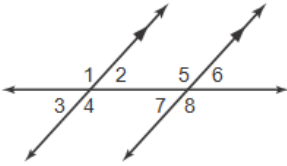**1.** If $m\angle 1 = 110°$, find $m\angle 7$.

70°

2. If $m\angle 6 = 70°$, find $m\angle 5$.

110°

Use the figure below for #3-6. **Classify the relationship between the pairs of angles. Explain.**

3) $\angle 1$ and $\angle 4$

> Vertical angles, bc. they share a vertex and are opposite of each other

4) $\angle 4$ and $\angle 5$

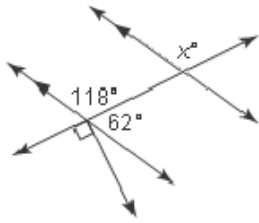> Alternate interior angles, bc. they are interior angles that lie on opposite sides of the transversal.

5) $\angle 3$ and $\angle 7$

> Corresponding Angles, bc. they are on the same postion in relation to the transversal.

6) $\angle 8$ and $\angle 1$

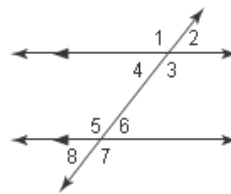> Alternate Exterior angles, bc. they are exterior angles that line on opposite sides of the transversal.
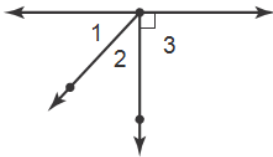
7) What is the value of x in the figure below?

X = 118°

8) Which pair of angles is *not* congruent?

A) ∠1 and ∠7

B) ∠3 and ∠5

C) ∠4 and ∠6

D) ∠2 and ∠5

9) In the figure below, m∠1 = x and ∠2 = x – 4. Write an equation for the value of ∠1 and ∠2 that can be used to solve for x. Then, solve for the value of x?

Equation:__ x + x – 4 = 90____
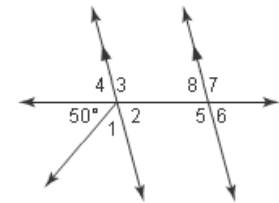
X = __47_____

10) Find the value of ∠5 if m∠2 =75°

105°

Find the value of x in the figures below.

11)

(3x + 27)°   (x + 25)°   **x = 32**

12)
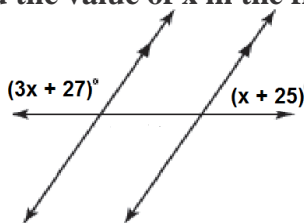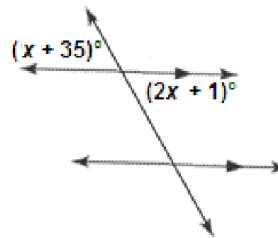
(x + 35)°   (2x + 1)°   **x = 34**
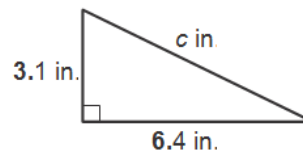
13) A right triangle has an acute angle that measures 42°. What are the measures of the other angles?

48° and 90°

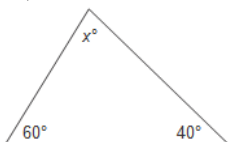14) Find the missing length.

c in.   3.1 in.   6.4 in.   **7.1 in.**

15) What is the value of x in the triangle below?

80°

60°   40°
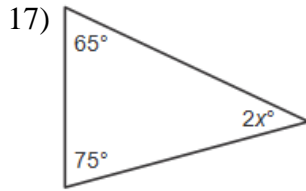
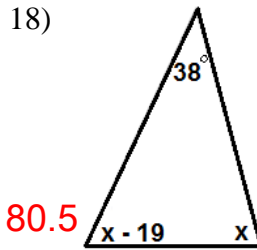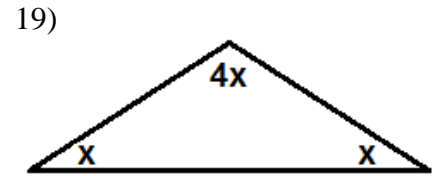16) In a right triangle, a = 4.5 inches and c = 7.5 inches. Find b.

b = 6

What is the value of x in the triangles below?

17)

65°
2x°
75°

x =20

18)

38°
x - 19   x

x = 80.5

19)

4x
x   x

x = 30

20) What is true about the sum of the measures of any two non–right angles in a right triangle?

    That their sum will equal 90°

21) What is true about angles in an equilateral triangle?

    All the angles equal each other   or   All the angles will equal 60°

22) In a right triangle, b = 7.1 units and
    c = 11.3 units. Find a.

    a = 8.8 units

23) A triangle has angles measuring 25° and
45°. What is the measure of the triangle's third
angle?   **110°**

24) A ladder is placed against a house and
reaches a second story window that is 12 feet
from the ground. The base of the ladder is 9
feet from the house. How long is the ladder?

    15 ft

25) Sabrina's flying disc was stuck in a tree.
In order to get the flying disc down, she used a
25-foot ladder positioned 8 feet from the base
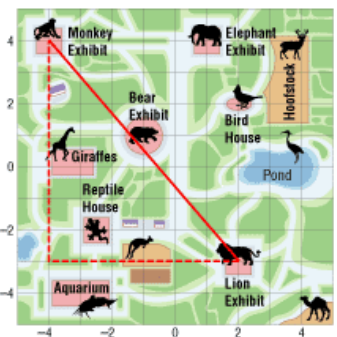of the tree. How high was the flying disc?

    23.7 ft

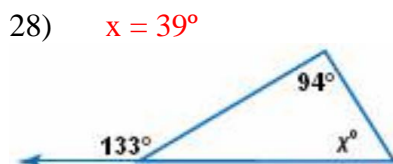26) How far up the house is the ladder resting?

25 ft

3 ft

24.8 ft

27) A unit on the grid of a map of City Zoo is
0.02 miles. Find the distance between the
monkey exhibit at (-4,4) and the lion exhibit at
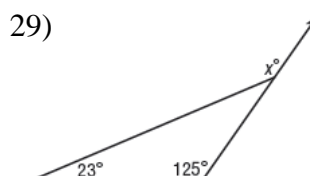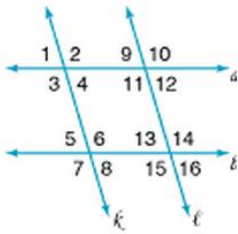(2,-3).
Round to the hundredths place.

.18 miles

Find the value of x in the triangles below.
28)   **x = 39°**

94°
133°   x°

29)

x°
23°   125°

x = 148°

30) Name the term that describes ∠11 and ∠15.

   Corresponding Angles

31) Name the term that describes ∠2 and ∠7.

   Alternate Exterior Angles

32) What is the length of the hypotenuse of the triangle below?
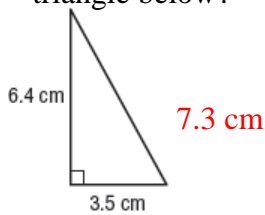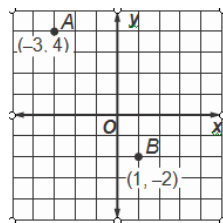
6.4 cm

7.3 cm

3.5 cm

33) In the diagram, Jorge let go of the string tied to his balloon. Write and solve an equation to find how far above Jorge's head the balloon is.
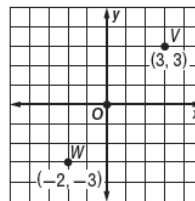
X = 51.2 yds

95 yd   x yd

80 yd
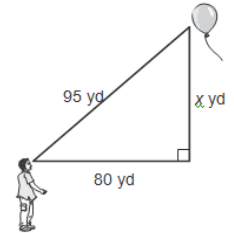
34) What is the distance between points A(-3,4) & B(1, -2)?

7.2 units

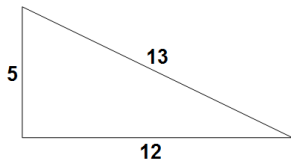35) What is the distance between points V(3,3) and W(-2, -3)?

7.8 units

Determine whether each set of measures can be the measures of the sides of a right triangle. Show work for credit.

36)   **Yes and work shown**

13

5

12

37)   **10, 14, 7**

No, and work shown

38)   **12, 16, 20**

Yes and work shown

Use the Distance Formula to find the distance between the pair of points.

39) (-3, -8), (-9, 2)   40) (-0.7, 3.2), (1.8, 1.9)   41) (2, 11), (−7, 9)   42) $\left(\frac{2}{3}, -1\right), \left(\frac{1}{3}, 4\right)$
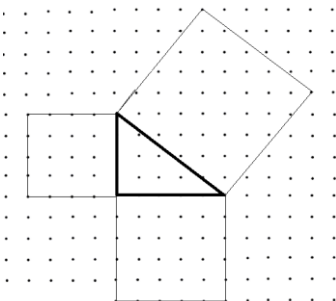
   ≈ 11.7   **≈ 2.8**   **≈ 9.2**   **≈ 5.0**

43) Explain how the diagram below demonstrates the Pythagorean Theorem for a right triangle with legs of length 4 & 5.

One square has an area of 16, another square has an area of 25, and the larger square has an area of 41. Thus,

$4^2 + 5^2 = 41$

$16 + 25 = 41$