

Name: *Key*

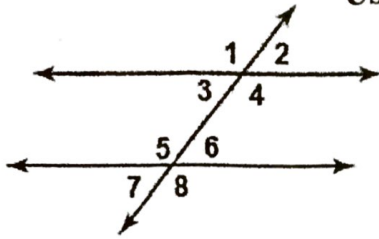
Period:

SCORE:

**Int 2****Unit 7 Review Sheet****Unit 7**

Show work. Round to the nearest tenth, if necessary.

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



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

$$m\angle 7 = 70^\circ$$

$$m\angle 5 = 110^\circ$$

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

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

Vertical angles

→ because they are across an X from each other

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

Corresponding angles

→ they are in the same location of each intersection

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

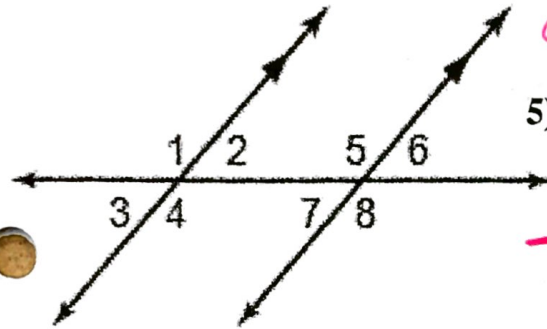
Alternate Interior

→ on opposite sides of the transversal inside the parallel lines

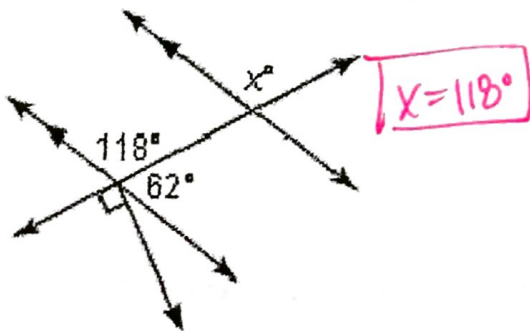
- 6)
- $\angle 8$
- and
- $\angle 1$

Alternate Exterior

→ on opposite sides of the transversal outside the parallel lines.

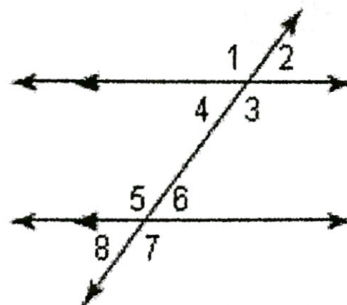


- 7) What is the value of
- $x$
- in the figure below?



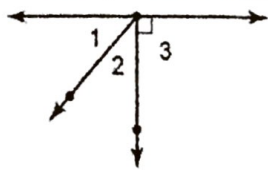
$$x = 118^\circ$$

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



- A)  $\angle 1$  and  $\angle 7$   
 B)  $\angle 3$  and  $\angle 5$   
 C)  $\angle 4$  and  $\angle 6$   
 D)  $\angle 2$  and  $\angle 5$

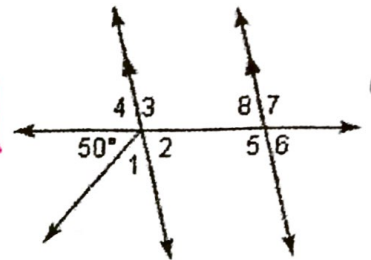
9) In the figure below,  $m\angle 1 = x$  and  $m\angle 2 = x - 4$ . Write an equation for the value of  $\angle 1$  and  $\angle 2$  that can be used to solve for  $x$ . Then, solve for the value of  $x$ ?



Equation  $x + x - 4 = 90$   
 OR  $x + x - 4 + 90 = 180$

Answer:  $x = 47$

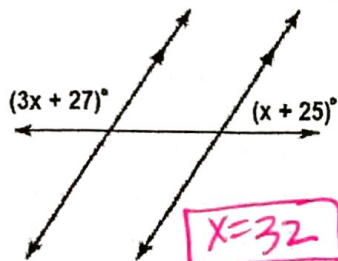
10) Find the value of  $\angle 5$  if  $m\angle 2 = 75^\circ$



$m\angle 5 = 105^\circ$

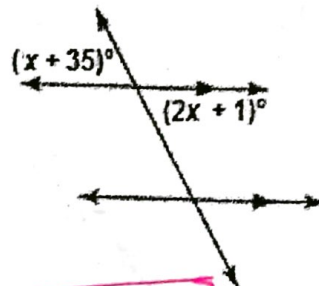
Find the value of  $x$  in the figures below.

11)



$x = 32$

12)

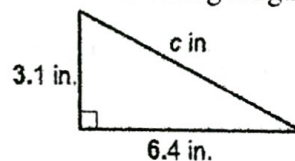


$x = 34$

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

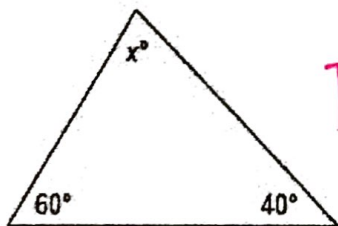
$90^\circ$  and  $48^\circ$

14) Find the missing length.



$c = 7.1$  in

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



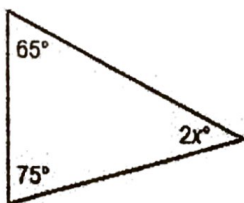
$x = 80^\circ$

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

$b = 6$  inches

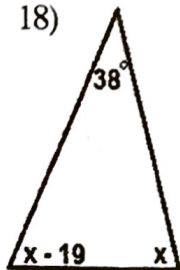
What is the value of  $x$  in the triangles below?

17)



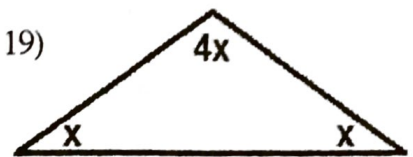
$$x = 20$$

18)



$$x = 80.5$$

19)



$$x = 30$$

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

They will add up to  $90^\circ$

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

They are all  $60^\circ$

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

$$a = 8.8 \text{ units}$$

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

$$110^\circ$$

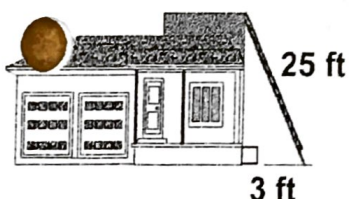
24) A ladder is placed against a house and reaches a second story window that is 12 feet from the ground. The base of the ladder is 9 feet from the house. How long is the ladder?

$$15 \text{ feet}$$

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?

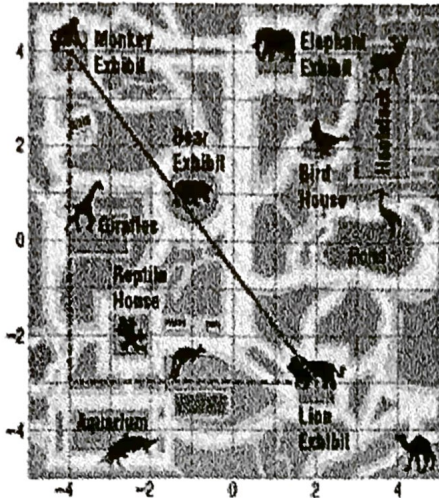
$$\text{about } 23.7 \text{ feet}$$

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



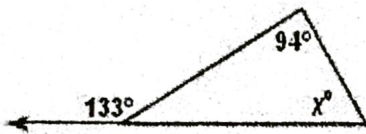
$$\text{about } 24.8 \text{ feet}$$

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.



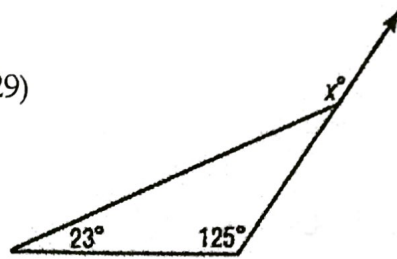
0.18 miles

Find the value of  $x$  in the triangles below.  
28)

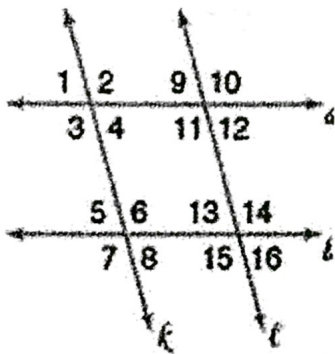


$x=39$

29)



$x=148$



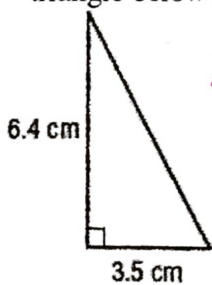
30) Name the term that describes  $\angle 11$  and  $\angle 15$ .

corresponding

31) Name the term that describes  $\angle 2$  and  $\angle 7$ .

Alternate exterior

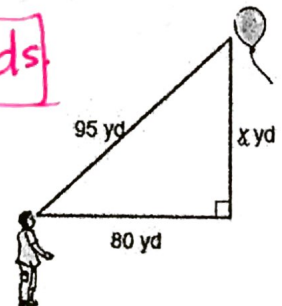
32) What is the length of the hypotenuse of the triangle below?



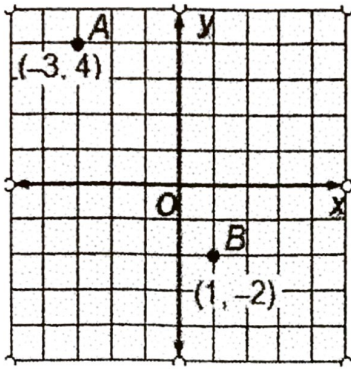
7.3 cm

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.

About 51.2 yds.

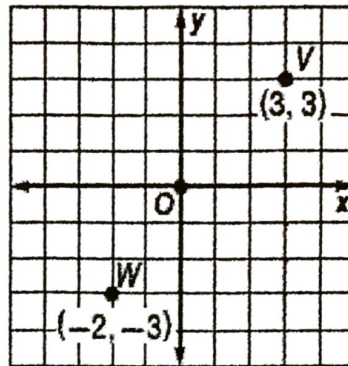


34) What is the distance between points A(-3,4) & B(1,-2)?



7.2 units

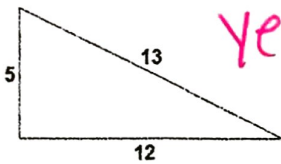
35) What is the distance between points V(3,3) and W(-2,-3)?



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

37) 10, 14, 7

NO

38) 12, 16, 20

Yes

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

39) (-3, -8), (-9, 2)

$$2\sqrt{34}$$

$$\approx 11.7 \text{ units}$$

40) (-0.7, 3.2), (1.8, 1.9)

$$2.8 \text{ units}$$

41) (2, 11), (-7, 9)

$$\sqrt{85}$$

$$\approx 9.2 \text{ units}$$

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

$$5.0 \text{ units}$$

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

The length of the leg (4) squared, plus the length of the leg (5) squared equals the length of the hypotenuse squared.

\*The squares built off of the 2 legs ADD to EQUAL the square built off the hypotenuse!\*

