

9.1 - 9.3 DAY FOUR CYU

Use when you get it right all by yourself

S Use when you did it all by yourself, but made a silly mistake

H Use when you could do it alone with a little help from teacher or peer

G Use when you completed the problem in a group

X Use when a question was attempted but wrong (get help)

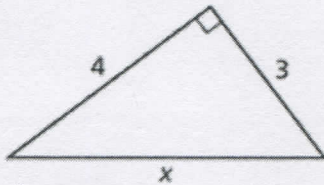
N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Solving Right Triangles	1 - 3, 11 - 13	14 - 16	19
Pythagorean Triple	1 - 3		
Classifying Triangles: Obtuse, Right, Acute		4 - 9	
Pythagorean Theorem	1 - 3, 11 - 13	4, 5	10, 19
Real-World Application			10, 19, 31
Is it a triangle?	6 - 9		
45-45-90 Proportions		11 - 13	19
30-60-90			14 - 16, 19
Area of polygons	17, 18		
Properties of polygons		17, 18	31
Writing similarity statements		20, 21	
Geometric Mean, Altitude & Leg Theorem	28	29	30
Geometric Mean	25	26	27
Right Triangle Similarity Theorem			22 - 24

9.1 Pythagorean Theorem and Triples

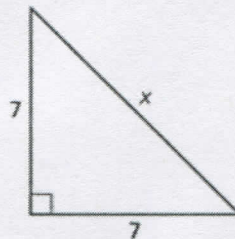
Find the value of x . Then tell whether the side lengths form a Pythagorean triple.

1.



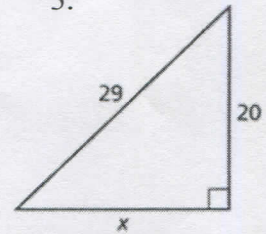
$x=5$; yes

2.



$x=7\sqrt{2}$; no

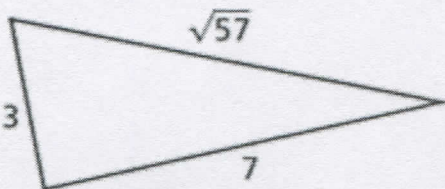
3.



$x=21$; yes

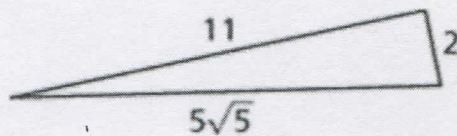
Tell whether the triangle is a right triangle.

4.



no; acute

5.



yes; right

Verify that the segment lengths form a triangle. Is the triangle acute, right, or obtuse?

6. 5, 12, & 13

yes; right

7. 5, 7, & 8

yes; acute

8. 2, 10, & 11

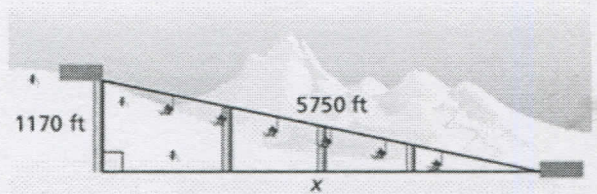
yes; obtuse

9. $\sqrt{8}$, 4, & 6

yes; obtuse

"triple"

10. A ski lift forms a right triangle, as shown. Use the Pythagorean Theorem to approximate the horizontal distance traveled by a person riding the ski lift. Round your answer to the nearest whole foot.

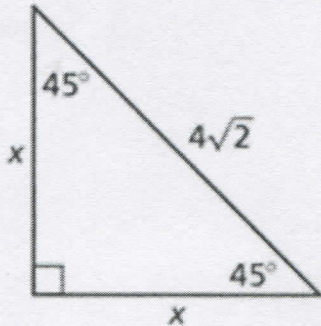


≈ 5630 ft

9.2 Special Right Triangles

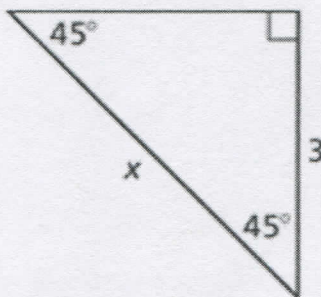
Find the value of x . Write your answer in simplest exact form. Show work for full credit.

11.



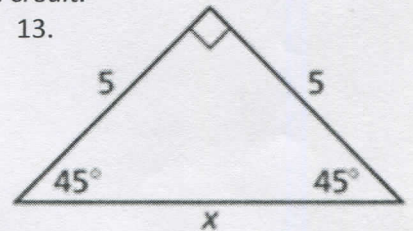
$x=4$

12.



$x=3\sqrt{2}$

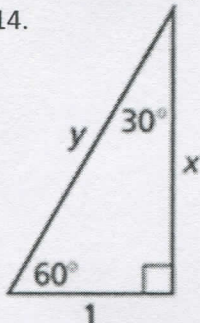
13.



$x=5\sqrt{2}$

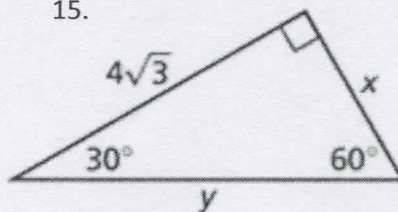
Find the values of x and y . Write your answers in simplest exact form. Show work for full credit.

14.



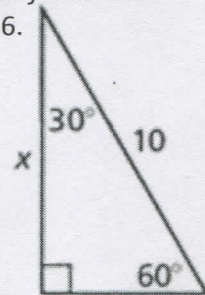
$x=\sqrt{3}$
 $y=2$

15.



$x=4$
 $y=8$

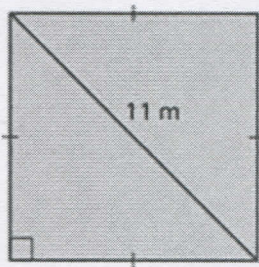
16.



$x=y=5\sqrt{3}$
 $y=5$

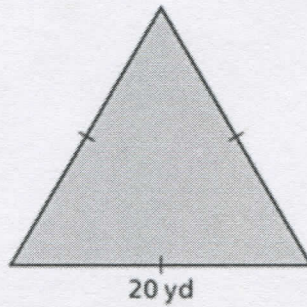
Find the area of the figure. Leave answers exact and round decimal answers to the nearest tenth.

17.



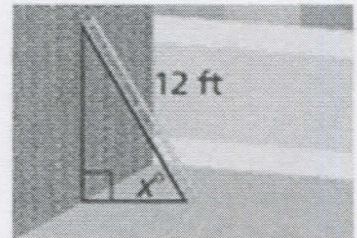
$$A = \frac{121}{2} \text{ m}^2 \approx 60.5 \text{ m}^2$$

18.



$$A = 100\sqrt{3} \text{ yd}^2 \approx 173.2 \text{ yd}^2$$

19. A 12-foot ladder is leaning up against a wall, as shown. How high does the ladder reach up the wall when x is 30° ? 45° ? 60° ? Round decimal answers to the nearest tenth, if necessary.

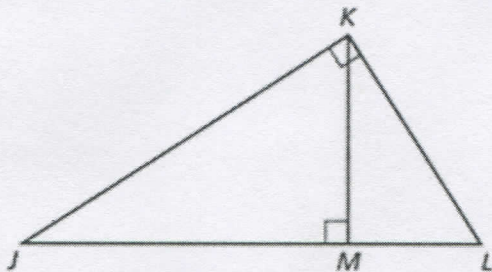


$$x = 6\sqrt{3} \text{ ft} \approx 10.4 \text{ ft}$$

9.3 Geometric Mean

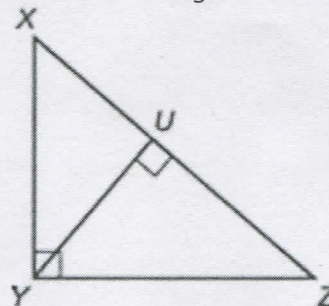
Identify the similar triangles by writing similarity statements for all three triangles.

20.



$$\triangle KLM \sim \triangle JLM \sim \triangle JKM$$

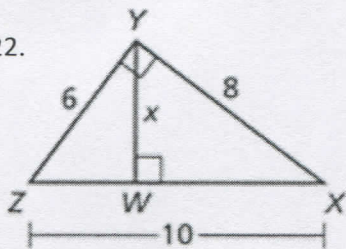
21.



$$\triangle YXU \sim \triangle ZXY \sim \triangle ZYU$$

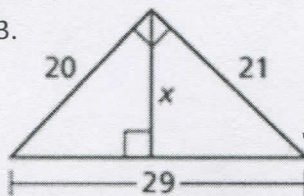
Find the value of x . Show your set up and work for full credit.

22.



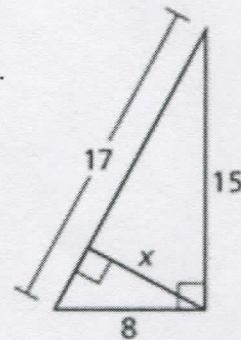
$$x = 4.8$$

23.



$$x \approx 14.483$$

24.



$$x \approx 7.059$$

Find the geometric mean of the two numbers. Show the set up to earn full credit.

25. 3 & 12

$$x = 6$$

26. 4 & 14

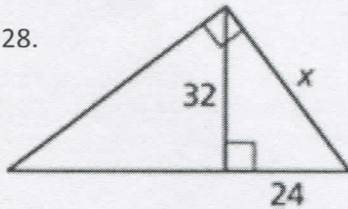
$$x = \sqrt{56} = 2\sqrt{14} \approx 7.483$$

27. 10 & 24

$$x = \sqrt{240} = 4\sqrt{15} \approx 15.4$$

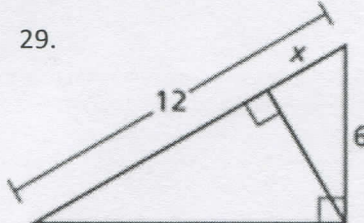
Find the value of x . Show the set up and work to earn full credit.

28.



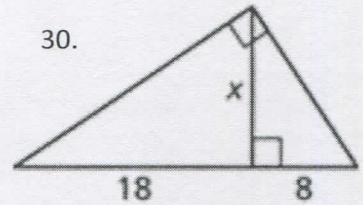
$$x = 40$$

29.



$$x = 3$$

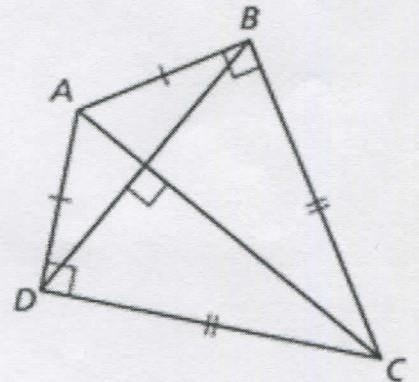
30.



$$x = 12$$

31. You are designing a diamond-shaped kite. You know that $AB = 38.4$ centimeters, $BC = 72$ centimeters, and $AC = 81.6$ centimeters. You want to use a straight crossbar \overline{BD} . About how long should it be?

$$BD \approx 67.765 \text{ cm}$$



CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	2	3	4	5	6	7	8
Basic		Intermediate			Advanced		Solved ALL!

