Solve applied problems using the attributes of similar triangles.
Solve applied problems using trigonometry.

Content Objective Content Objective Content Objective Content Objective Content Objective Content Objective Content Objective Content Objective Content Objective

Week 8, Lesson 1

1. Warm-up
2. ICA
3. Quiz

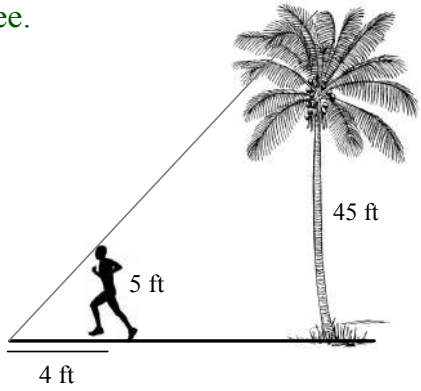
Language Objectives

I will discuss with the members of my group how to solve real-world problems involving triangles.

I will demonstrate how to solve triangle problems using similar triangles and trigonometry when appropriate.

Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up

Warm-up: Find the length of the shadow of the tree.



6-Week Exam Self-Assessment

Geometry 2 - Self-Assessment 6-Week Exam

		Correct	Didn't Know How to do it	Made a Small Mistake
Trans	1			
	2			
Similar Figures	3			
	4			
	5			
	6			
	7			
	8			
	9			
Geo 1 Review	10			
	11			
	12			
	13			
	14			
	15			

		Correct	Didn't Know How to do it	Made a Small Mistake
Geo 1 Review	16			
	17			
	18			
Similar Figures	19			
	20			
	21			
	22			
Trans	23			
	24			
Trigonometry	25			
	26			
	27			
	28			
	29			
	30			

	# Questions	# Correct	# Wrong	I Need Help	I will attend KKIS (When?)
Transformations	4				
Similar Figures	11				
Trigonometry	6				
Geo 1 Review	9				

A ladder 6 feet long leans against a wall and makes an angle of 71° with the ground. Find to the *nearest tenth* of a foot how high up the wall the ladder will reach.

Draw a picture. Label your sides. Write all 3 trigonometric ratios. Solve.

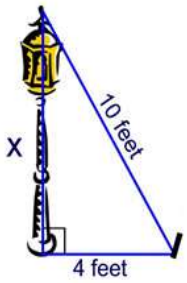
Choose:

- 2.0 feet
- 3.5 feet
- 5.7 feet
- 6 feet

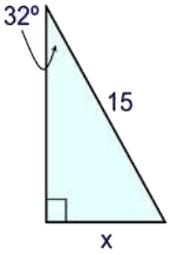
ICA: Show all work. Draw and label the picture.

Answer choices have been provided to give you some confidence in your solutions, not so you can just guess. Do your own work.

1. A light post, shown at the right, is set in concrete and supported with a guy wire while the concrete dries. The length of the guy wire is 10 feet and the ground stake is 4 feet from the bottom of the light post. Find the height of the light post.

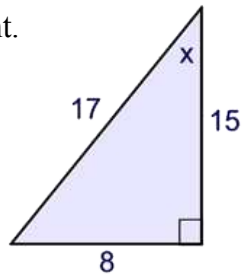


2. In the diagram shown at the right, what is the value of x to the *nearest whole number*?

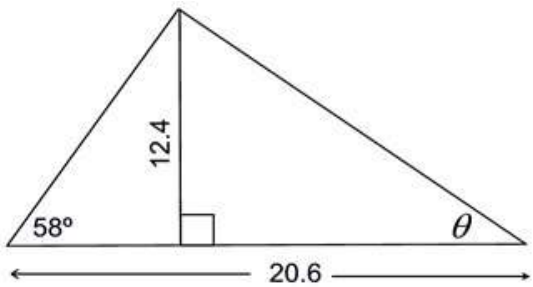


- [1] 8
- [2] 9
- [3] 10
- [4] 13

3. Find the value of x in the diagram at the right.



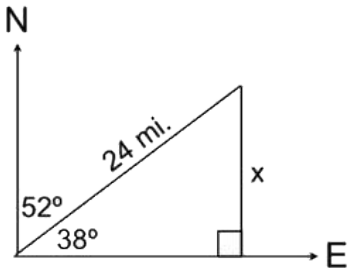
4. Find to the *nearest degree*, the number of degrees in the angle labeled θ in the diagram at the right. (*Hint: this is a two step problem. Use the small triangle on the left to help find needed information.*)



- [1] 32°
- [2] 44°
- [3] 48°
- [4] 52°

5. If the legs of a right triangle are 28 units and 45 units, find the exact number of units in the hypotenuse.

6. A plane has traveled 24 miles on a course heading 52° east of north. How far north (x) has the plane traveled at this point? Express answer to the *nearest hundredth* of a mile.



- [1] 12.94 miles
- [2] 14.78 miles
- [3] 18.91 miles
- [4] 21.72 miles

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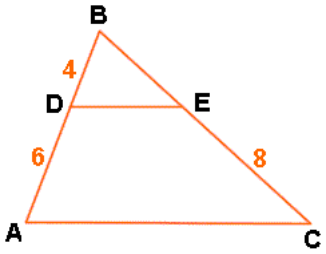
7. Given: In the diagram, is parallel to , $BD = 4$, $DA = 6$ and $EC = 8$. Find BC to the *nearest tenth*.



- 4.3
- 5.3
- 8.3
- 13.3

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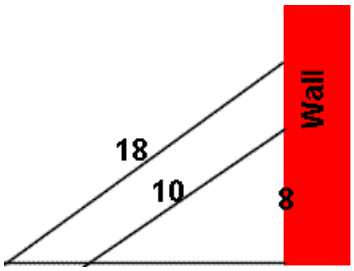
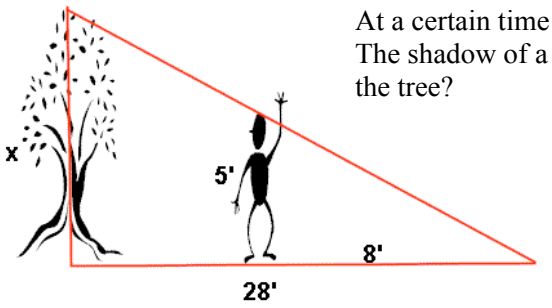
8. Two ladders are leaned against a wall such that they make the same angle with the ground. The 10' ladder reaches 8' up the wall. How much further up the wall does the 18' ladder reach?



- 4.5'
- 6.4'
- 14.4'
- 22.4'

9.



At a certain time of the day, the shadow of a 5' boy is 8' long. The shadow of a tree at this same time is 28' long. How tall is the tree?

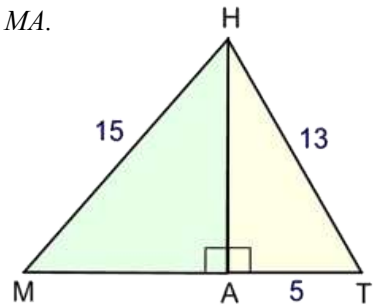
- 8.5'
- 16'
- 17.5'
- 20'

---

10. A vertical flagpole casts a shadow 12 feet long at the same time that a nearby vertical post 8 feet casts a shadow 3 feet long. Find the height of the flagpole in feet.

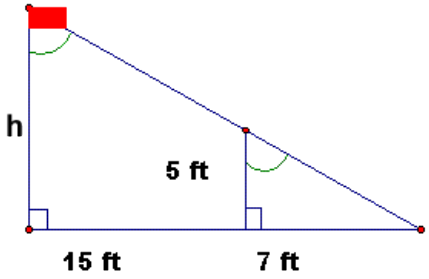
- **8**
- **12**
- **24**
- **32**

In the diagram at the right, $MH = 15$, $HT = 13$, and $AT = 5$. Find MA.

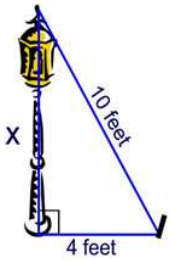


Warm-up: Find the height of the flag.

Draw a picture.
Label your sides.
Solve.



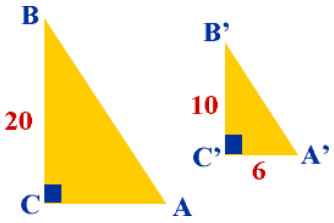
1. A light post, shown at the right, is set in concrete and supported with a guy wire while the concrete dries. Find, to the *nearest degree*, the angle of elevation of the top of the post made by the guy wire from the stake in the ground.



- [1] 66°
- [2] 24°
- [3] 22°
- [4] 64°

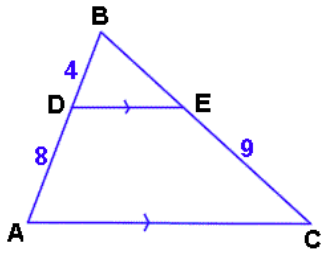
2. Given angle *A* and angle *A'* are each 59°, find *AC*.

- 8
- 10
- 12
- 18



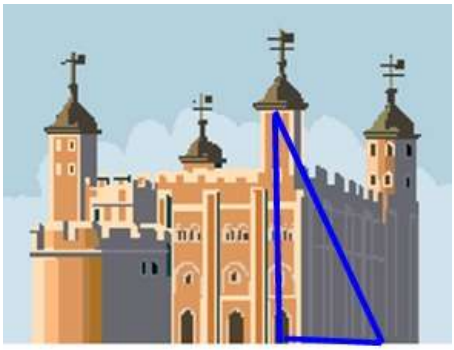
3. Find *BC*.

- 4
- 4.5
- 13.5
- 17



4. Princess Fiona is locked in the tower of Castle Kronen. You have volunteered to rescue the princess. If the tower window is 36 feet above the ground and you must place your ladder 10 feet from the base of the castle (because of the moat), which choice is the shortest length ladder you will need to reach the tower window?

- 34 feet
- 35 feet
- 37 feet
- 38 feet

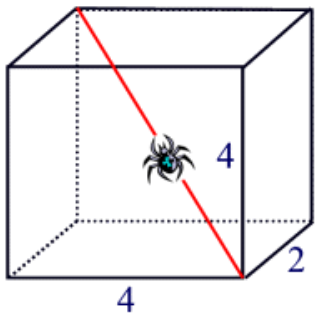


5. An equilateral triangle is plotted on a coordinate plane. Two of the vertices are (0,0) and (8,0). Which of the coordinates shown could be the vertex of the third side?

6. Joe Bean regularly takes a short-cut across Mr. Wilson's lawn instead of walking on the sidewalk on his way home from school. How much distance is saved by Joe cutting across the lawn?

- 5 ft
- 10 ft
- 25 ft
- 35 ft

7. A spider has taken up residence in a small cardboard box which measures 2 inches by 4 inches by 4 inches. What is the length, in inches, of a straight spider web that will carry the spider from the lower right front corner of the box to the upper left back corner of the box?



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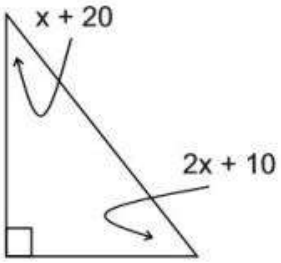
8. The diagram at the right shows a right triangle with representations for two angles. What is the value of x?

- [1] 15
- [2] 20
- [3] 24
- [4] 30



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9. A frisbee lands on the top of a 15' concrete wall. To retrieve the frisbee, a ladder must be placed such that the foot of the ladder is 6 feet from the base of the wall and the top of the ladder rests on the top of the wall. What is the shortest length of a ladder that can be used?

[1] 15' [2] 16' [3] 17' [4] 18'

---

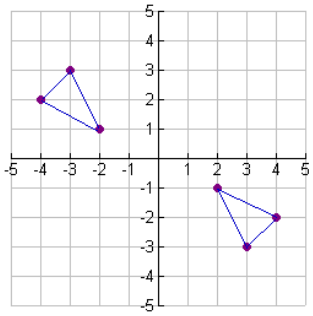
10. At a certain time of the day, the shadow of a 5' boy is 8' long. The shadow of a nearby flagpole at this same time is 28' long. How tall is the flagpole?

[1] 8.5' [2] 16' [3] 17.5' [4] 20'

---

11. Which of the following transformations is illustrated by the graph at the right?

- [1] dilation
- [2] reflection in $y = x$
- [3] translation
- [4] reflection in the origin



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12. Which of the following transformations creates a figure that is similar (but not congruent) to the original figure? I. translation II. rotation III. dilation

[1] I only [2] II only [3] III only [4] II and III

---

13. What is the image of point (4,-2) after a dilation of 3?

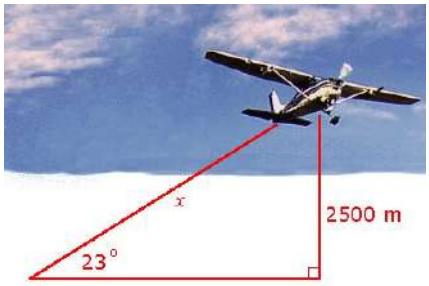
[1] (12, -6) [2] (7, 1) [3] (1, -5) [4] (4/3, -2/3)

---

14. Find the length of the line segment whose endpoints are (-3, 4) and (5,4).

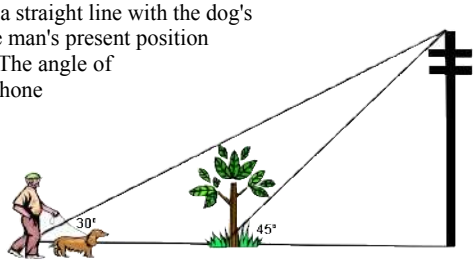
Warm-up: Answer the following questions.

Draw a picture.
Label your sides.
Write all 3 trigonometric ratios.
Solve.

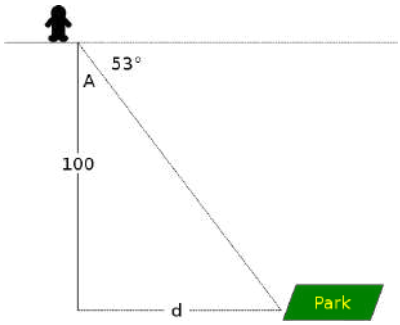


1. A man is walking his dog on level ground in a straight line with the dog's favorite tree. The angle of elevation from the man's present position to the top of a nearby telephone pole is 30º. The angle of elevation from the tree to the top of the telephone pole is 45º. If the telephone pole is 40 feet tall, how far is the man with the dog from the tree?
Express answer to the *nearest tenth* of a foot.

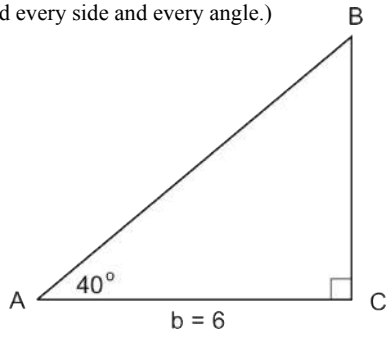
- 1.7 feet
- 29.3 feet
- 42.3 feet



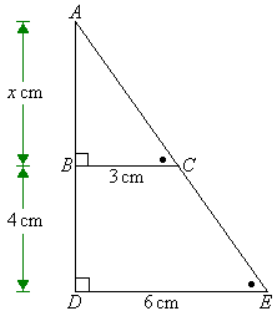
2. Find d.



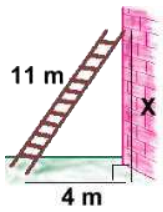
3. Solve the triangle.
(Find every side and every angle.)



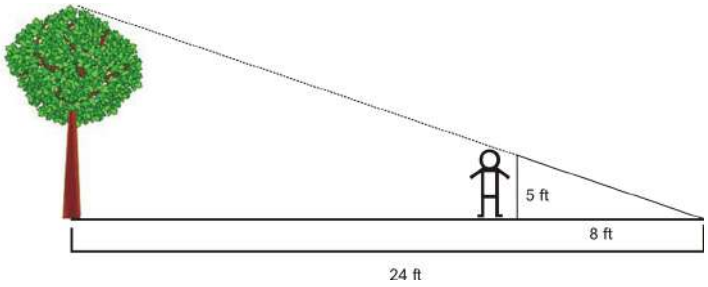
4. Solve for x.



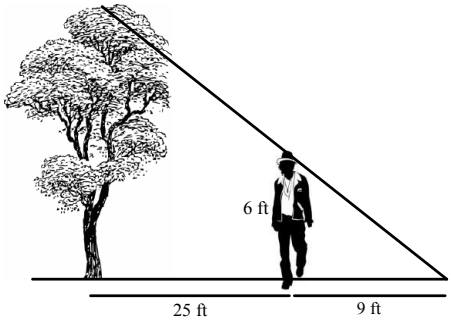
5. Solve for x.



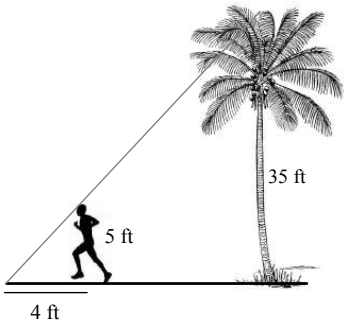
6. Find the height of the tree.



7. Find the height of the tree.

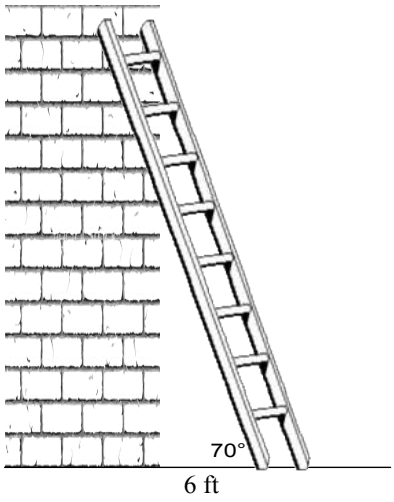


8. Find the length of the shadow of the tree.

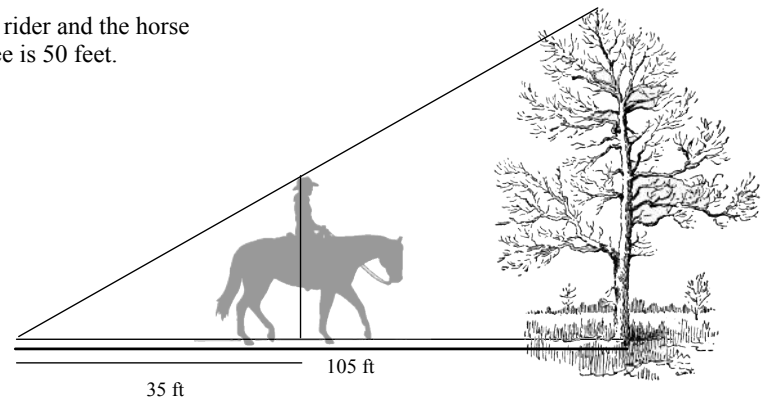


9. Find the height of the ladder

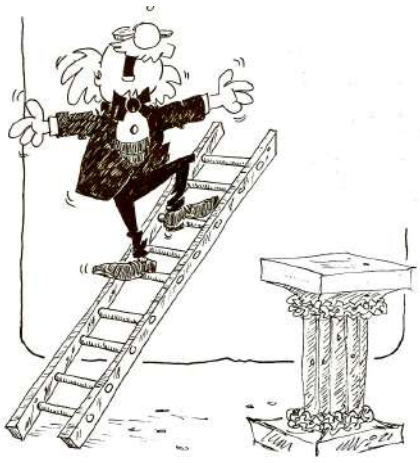
10. Find the height of the ladder



11. Find the height of the rider and the horse if the height of the tree is 50 feet.



12. How tall does the platform need to be for the ladder to be placed at a 50° incline, 10 feet away?



Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure

What do you need the most help with?

Multiplying?
Dividing?
Fractions?
Solving Equations?
Geometry 1?
Geometry 2?

Will you come in during KKIS for help?

Solve applied problems using the attributes of similar triangles.
Solve applied problems using trigonometry.

Content Objective Content Objective Content Objective Content Objective Content Objective Content Objective Content Objective Content Objective Content Objective

Week 8, Lesson 2

1. Warm-up
2. ICA

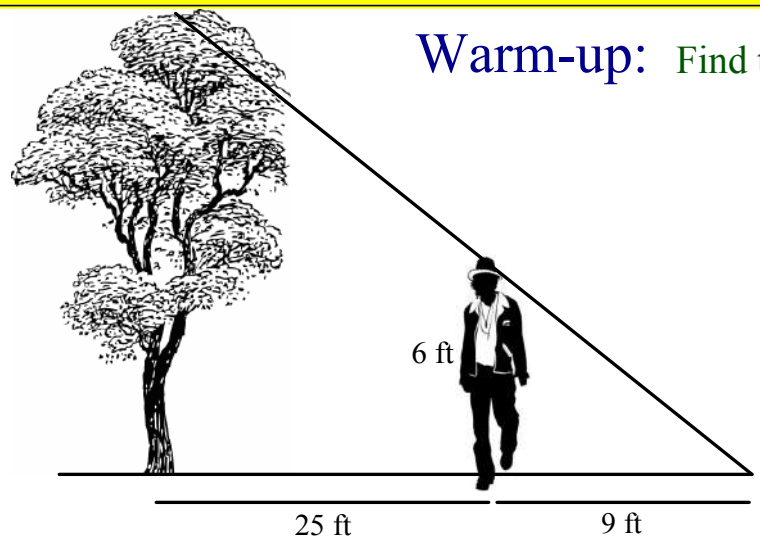
Language Objectives

I will discuss with the members of my group how to solve real-world problems involving triangles.

I will demonstrate how to solve triangle problems using similar triangles and trigonometry when appropriate.

Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up

Warm-up: Find the height of the tree.



AIMS - WRITING TEST
TUESDAY FEBRUARY 28, 2012
40-MINUTE CLASSES AFTER TESTING

TESTING	8:00 A.M.	11:00 A.M.
LUNCH	11:00 A.M.	11:40 A.M.
PERIOD 5	11:45 A.M.	12:25 P.M.
PERIOD 1	12:30 P.M.	1:10 P.M.
PERIOD 2	1:15 P.M.	1:55 P.M.
PERIOD 3	2:00 P.M.	2:40 P.M.

Simplifying Radical Expressions

1. $\sqrt{20}$ 2. $\sqrt{40}$ 3. $\sqrt{99}$ 4. $\sqrt{108}$

5. $\sqrt{420}$ 6. $\sqrt{275}$ 7. $\sqrt{640}$ 8. $\sqrt{704}$

1. $\sqrt{18}$ 2. $\sqrt{68}$ 3. $\sqrt{60}$ 4. $\sqrt{75}$

$\sqrt{320}$ = $\sqrt{500}$ = $\sqrt{96}$ = $\sqrt{252}$ =

$\sqrt{27}$ = $\sqrt{50}$ = $\sqrt{175}$ = $\sqrt{128}$ =

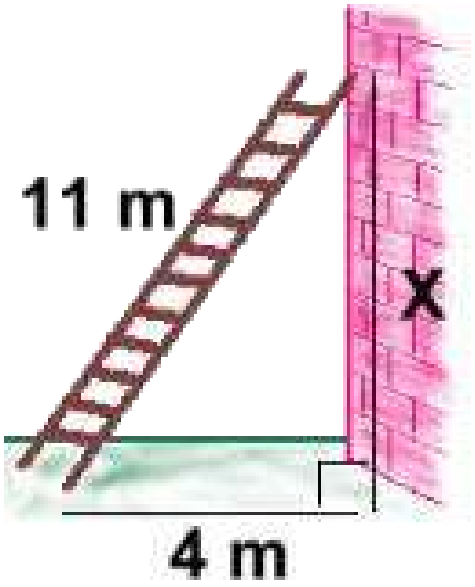
A map has a scale of 2 in : 6 mi. If Clayton and Centerville are 10 in apart on the map then how far apart are the real cities?

A bird sits on top of a 15-foot lamppost. The angle of depression from the bird to the feet of an observer standing away from the lamppost is 35°.

From the top of a 35 meter cliff, Lori spots a hiker at an angle of depression of 62°.

The Sears Tower stands 1,451 feet tall. A person across the street is 30 feet away from the foot of the tower.

Solve for x.



Solve applied problems using the attributes of similar triangles.
Solve applied problems using trigonometry.

Content Objective Content Objective Content Objective Content Objective Content Objective Content Objective Content Objective Content Objective Content Objective

Week 8, Lesson 3

1. Warm-up
2. ICA

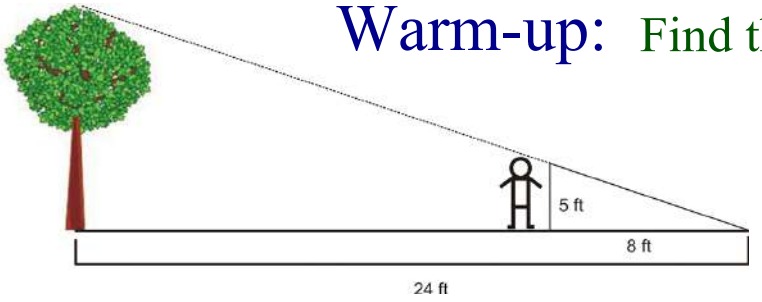
Language Objectives

I will discuss with the members of my group how to solve real-world problems involving triangles.

I will demonstrate how to solve triangle problems using similar triangles and trigonometry when appropriate.

Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up

Warm-up: Find the height of the tree.



ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity

Answer each question and round your answer to the nearest whole number.

1) A 6 ft tall tent standing next to a cardboard box casts a 9 ft shadow. If the cardboard box casts a shadow that is 6 ft long then how tall is it?

2) A telephone booth that is 8 ft tall casts a shadow that is 4 ft long. Find the height of a lawn ornament that casts a 2 ft shadow.

3) A map has a scale of 3 cm : 18 km. If Riverside and Smithville are 54 km apart then they are how far apart on the map?

4) Find the distance between Riverside and Milton if they are 12 cm apart on a map with a scale of 4 cm : 21 km.

5) A model house is 12 cm wide. If it was built with a scale of 3 cm : 4 m then how wide is the real house?

6) Oak Grove and Salem are 87 mi from each other. How far apart would the cities be on a map that has a scale of 5 in : 29 mi?

7) A statue that is 12 ft tall casts a shadow that is 15 ft long. Find the length of the shadow that a 8 ft cardboard box casts.

Simplifying Radicals

To simplify a radical, factor the expression under the radical sign to its prime factors. For every pair of like factors, bring out one of the factors. Multiply whatever is outside the sign, then multiply whatever is inside the sign. Remember that for each pair, you "bring out" only one of the numbers.

$\sqrt{4} = 2$ because 2 is a factor used twice ($2 \times 2 = 4$). $\sqrt{9} = 3$ because 3 is a factor used twice ($3 \times 3 = 9$)

2 2 3 3

Examples :

$\sqrt{28}$: 7 4; 7 (2 2); $2\sqrt{7}$

$\sqrt{54}$: 9 6; (3 3) 3 2; $3\sqrt{2 \times 3} = 3\sqrt{6}$

$\sqrt{150}$: 15 10; 3 (5) 2 (5); $5\sqrt{3x2} = 5\sqrt{6}$

$\sqrt{720}$: 72 10; 9 8 2 5; (3 3) (2 2) (2 2) 5; $3 \times 2 \times 2\sqrt{5} = 12\sqrt{5}$

Simplify completely:

1. $\sqrt{9} =$
2. $\sqrt{32}$
3. $\sqrt{50}$
4. $\sqrt{80}$
5. $\sqrt{72}$
6. $\sqrt{120}$
7. $\sqrt{68}$
8. $\sqrt{200}$
9. $\sqrt{180}$
10. $\sqrt{33}$
11. $3\sqrt{12}$
12. $5\sqrt{48}$
13. $2\sqrt{76}$
14. $-3\sqrt{32}$
15. $5\sqrt{80}$

Similarity
Transformations
Right Triangles and Trigonometry
2-3 Dimensional Figures
Circles
Probability

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Week 8, Lesson 4

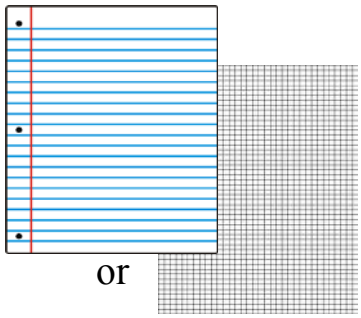
1. Midterm Exam

Language Objectives

I will demonstrate my prior knowledge of the concepts to be covered in Geometry 2; Similarity, Transformations, Right Triangles and Trigonometry, 2 and 3 Dimensional Figures, Circles and Probability.

Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up

You need 1 piece of extra paper and a PENCIL



or

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Week 8, Friday

1. Warm-up
2. ICA
3. Extra Practice

Language Objectives

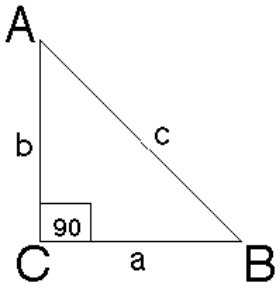
I will begin preparing to pass my math AIMS test.

I will discuss with the members of my group the reasons I have chosen my answers to multiple choice questions.

I will share strategies for answering multiple choice question.

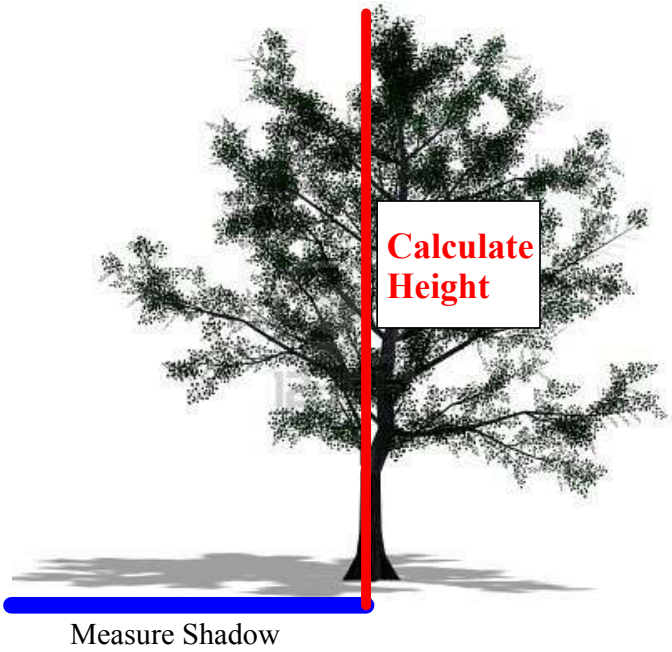
Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up

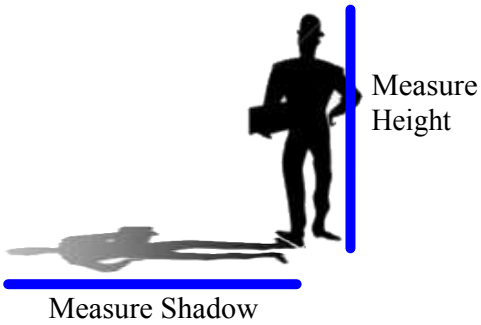
Warm-up: Answer the following questions.

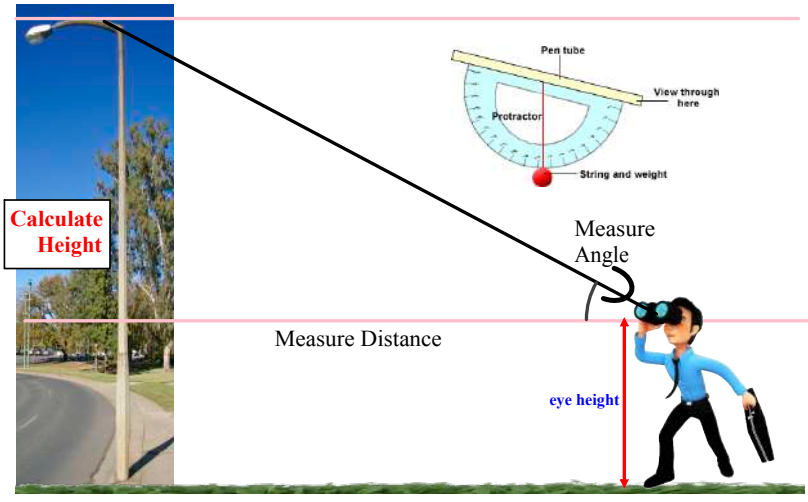


1. Given right triangle ABC with $a = 9, b = 12, c = 15$
   Calculate cos A

2. Given right triangle ABC with $a = 10, b = 3, c = 10.44$
   Calculate sin B







Attachments

Self-Assess Wk6.pdf

Quiz-W8L1.pdf