

TRIGONOMETRY REVIEW DAY

Today we will be practicing differentiated instruction, where you will get to pick your path of assignments based on what you feel best fits your academic desires. You will need to play Tic-Tac-Toe and choose 3 activities that make a win!

I have chosen activities # _____ # _____ # _____

<p>1. Make a creative poster of the trigonometric ratios, how to remember them, how to use trig to find sides and how to use trig to find angles. (For students who want to practice and show their learning through creative means.)</p>	<p>2. Complete the attached “What did Mrs. Margarine Think About Her Sister’s Husband?” activity puzzle. (For students who want to practice using trig ratios.)</p>	<p>3. With a partner, make up a team name, and complete “What Do You Call a Row of Large Animals Separating Two Yards?” Activity. Show all of your work on a separate sheet of paper, staple it to your assignment you chose. Be sure to put both you and your partner’s name on the assignment. Feel free to do this at home via social media, Skype or texting. You must only show work you have completed. You may only work with student’s from THIS class.</p>
<p>4. Complete the attached “Why Did the Dog Walker Go Out of Business?” activity puzzle. Show all work on a separate sheet of paper. (For students who want to practice using trig to find sides.)</p>	<p>5. Complete the attached LAB 11.5 #1-5 (For students who want to be engaged in a spiraled assignment of right triangles from the trig and right triangle units)</p>	<p>6. Complete the attached “Why Did the Tennis Player Decide to Get Glasses?” activity puzzle. Show all final answers 1st as a simplified RADICAL! (For students who want to practice using recalling special right triangles.)</p>
<p>7. Complete the attached “Did You Hear About....” activity puzzle. Show all work on a separate sheet of paper. (For students who want to practice using trig to find angles.)</p>	<p>8. Using your books, complete pg. 460, # 9, 24, 25, 51 and 52. Show all work on a separate paper. Include the written question and picture along with all work. (For students who want to be engaged in a spiraled assignment of real world applications.)</p>	<p>9. Read section 8-5 in your books and complete the attached “8-5 Lesson Reading Guide”. (For students who want to be engaged in a spiraled assignment which previews how we will be applying the content in our next lesson.)</p>

What Did Mrs. Margarine Think About Her Sister's Husband?

For each exercise, select the correct ratio from the four choices given. Write the letter of the correct choice in the box that contains the number of that exercise.

OBJECTIVE 5-a: To give the sine, cosine, and tangent of an acute angle of a right triangle.

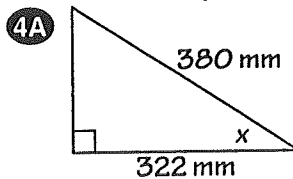
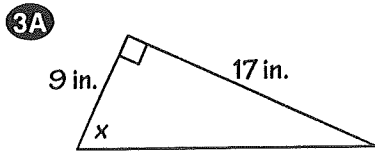
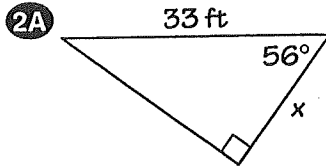
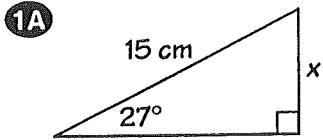
<p>1 sin A 2 cos A 3 tan A</p>	<p>1 $\frac{12}{13}$ E $\frac{5}{12}$</p>	<p>R $\frac{5}{13}$ N $\frac{13}{5}$</p>	
<p>4 sin B 5 cos B 6 tan B</p>	<p>L $\frac{13}{5}$ A $\frac{12}{13}$</p>	<p>T $\frac{5}{13}$ S $\frac{12}{5}$</p>	
<p>7 sin A 8 cos A 9 tan A</p>	<p>E $\frac{\sqrt{3}}{2}$ U 2</p>	<p>I $\frac{1}{2}$ R $\frac{\sqrt{3}}{3}$</p>	
<p>10 sin B 11 cos B 12 tan B</p>	<p>I $\sqrt{3}$ A $\frac{\sqrt{3}}{2}$</p>	<p>U $\frac{1}{2}$ P $\frac{\sqrt{3}}{3}$</p>	
<p>13 sin A 14 cos A 15 tan A</p>	<p>D $\frac{5}{3}$ F $\frac{4}{3}$</p>	<p>H $\frac{3}{5}$ E $\frac{4}{5}$</p>	
<p>16 sin B 17 cos B 18 tan B</p>	<p>I $\frac{3\sqrt{58}}{58}$ N $\frac{\sqrt{58}}{58}$</p>	<p>A $\frac{3}{7}$ W $\frac{7}{3}$</p>	
<p>19 sin A 20 cos A 21 tan A</p>	<p>R $\frac{15}{17}$ S $\frac{17}{8}$</p>	<p>C $\frac{8}{17}$ L $\frac{8}{15}$</p>	
<p>22 sin A 23 cos A 24 tan A</p>	<p>T $\frac{\sqrt{2}}{2}$ B 1</p>	<p>T $\frac{\sqrt{2}}{2}$ N $\sqrt{2}$</p>	

14	3	17	6	10	23	8	1	20	12	15	7	19	24	11	5	22	13	9	2	16	21	4	18
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What Do You Call a Row of Large Animals Separating Two Yards?

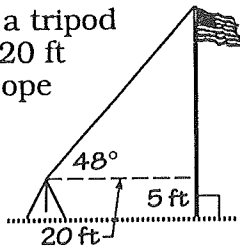
Partner A should do the left side and Partner B the right side. Cross out the letter above each correct answer. The remaining letters will answer the title question. (Some answers are rounded.)

Find the measure of the side or angle labeled x .

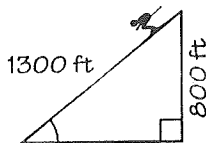


Solve.

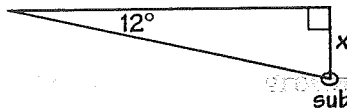
- 5A A telescope is mounted on a tripod 5 ft above the ground and 20 ft from a flagpole. The telescope must be rotated 48° from horizontal to see the top of the flagpole. How tall is the flagpole?



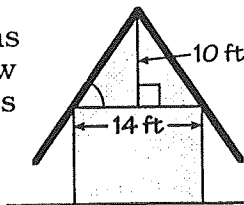
- 6A A skier drops 800 vertical feet while skiing 1300 ft. What is the angle of the ski slope with the horizontal?



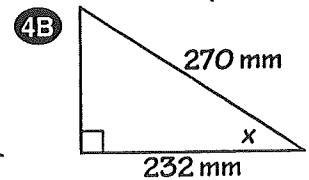
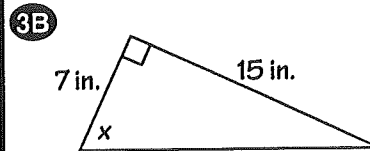
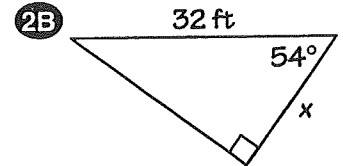
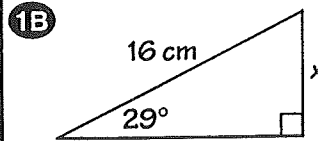
- 7A A submarine dives at an angle of 12° to the surface of the water. The submarine travels at a speed of 740 feet per minute. About how deep is the submarine after 5 min?



- 8A The roof of a ski cabin has a steep pitch to help snow slide off. What angle does the roof make with the horizontal?

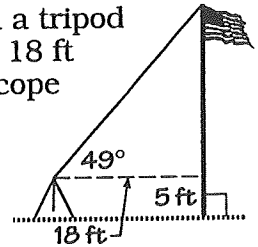


Find the measure of the side or angle labeled x .

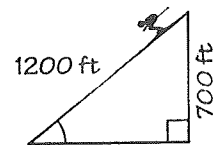


Solve.

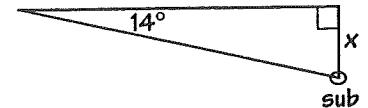
- 5B A telescope is mounted on a tripod 5 ft above the ground and 18 ft from a flagpole. The telescope must be rotated 49° from horizontal to see the top of the flagpole. How tall is the flagpole?



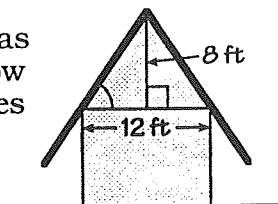
- 6B A skier drops 700 vertical feet while skiing 1200 ft. What is the angle of the ski slope with the horizontal?



- 7B A submarine dives at an angle of 14° to the surface of the water. The submarine travels at a speed of 720 feet per minute. About how deep is the submarine after 5 min?



- 8B The roof of a ski cabin has a steep pitch to help snow slide off. What angle does the roof make with the horizontal?



T	H	E	R	C	A	L	E	D	F	T	
32°	38°	725 ft	55°	6.8 cm	62°	51°	27.2 ft	7.4 cm	18.5 ft	24.3 ft	769 ft

T	H	E	R	O	N	R	A	C	G	E	T
871 ft	18.8 ft	849 ft	25.7 ft	53°	56°	7.8 cm	65°	22.5 ft	36°	6.9 cm	31°

Why Did the Professional Dog Walker Go Out of Business?

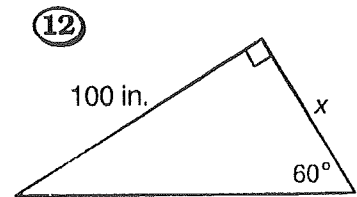
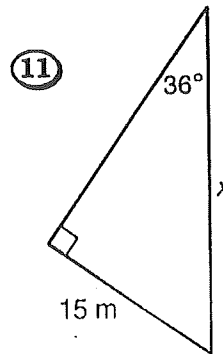
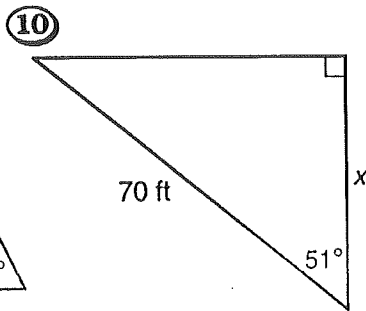
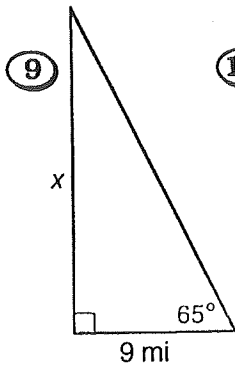
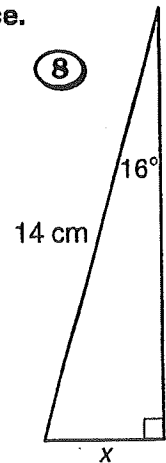
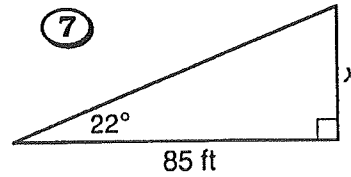
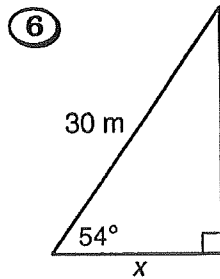
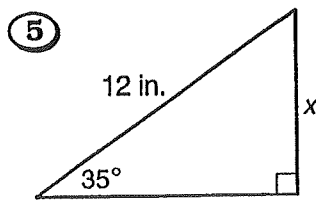
Cross out the letters above each correct answer. When you finish, write the remaining letters in the spaces at the bottom of the page.



In Exercises 1-4, solve the equation. Round your solution to two decimal places.

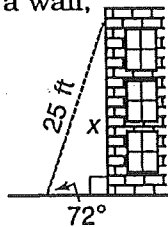
- ① $\sin 27^\circ = \frac{x}{8}$ ② $\tan 18^\circ = \frac{n}{75}$ ③ $\sin 40^\circ = \frac{4}{a}$ ④ $\cos 5^\circ = \frac{92}{y}$

In Exercises 5-12, find the length of the side labeled x . Round to one decimal place.

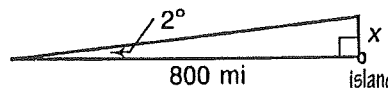


In Exercises 13-15, find the required length. Round to one decimal place.

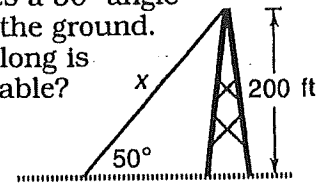
- ⑬ When a 25-ft ladder is leaned against a wall, it makes a 72° angle with the ground. How high up on the wall does the ladder reach?



- ⑭ A ship is sailing toward a small island 800 mi away. If the ship is 2° off course, by how many miles will it miss the island?



- ⑮ A cable from the top of a 200-ft telephone tower makes a 50° angle with the ground. How long is the cable?



SO	ME	HE	RE	AT	LO	VE	BE	FA	ST	OP
19.3 mi	6.22	29.6 ft	57.7 in.	17.6 m	4.5 cm	261.1 ft	3.63	34.3 ft	53.4 in.	23.8 ft
HI	GH	RE	SL	OW	IT	EA	CH	UP	CA	SH
89.65	6.9 in.	44.1 ft	258.5 ft	27.9 mi	24.37	24.1 m	3.9 cm	92.35	25.5 m	21.5 mi

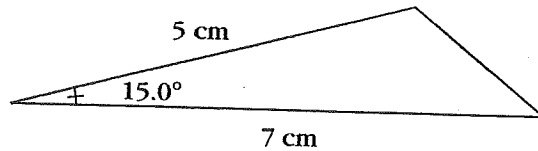
LAB 11.5

Using the Hypotenuse Ratios

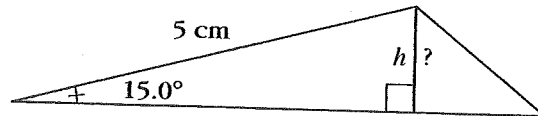
Name(s) _____

■ **Equipment:** CircleTrig geoboard

Example: Find the area of a triangle with sides of 5 cm and 7 cm and an angle of 15° between those two sides.



If we use the 7-cm side as the base, we need a height to calculate the area.



Using the table we made in the previous lab, we see that for a 15° angle the ratio $\text{opp/hyp} = 0.26$.

So we have $\frac{h}{5} = 0.26$.

1. What are the height and area of the triangle described above?

Solve the following problems by a similar method. Always start by drawing a figure.

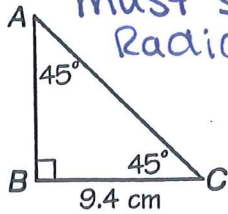
2. What is the area of a triangle with sides of 4 cm and 6 cm and a 24° angle between those sides?
3. A 12-ft ladder is propped up against a wall. This ladder is safest if it is at a 75° angle from the horizontal. How far should the base of the ladder be from the wall?
4. What are the acute angles of a 3, 4, 5 triangle?
5. What is the acute angle of a parallelogram with sides of 3 cm and 8 cm and area of 14.4 cm^2 ?

Why Did the Tennis Player Decide to Get Glasses?

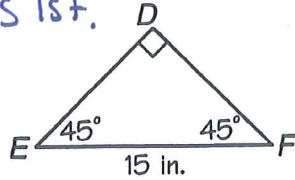


Find the length indicated for each exercise (some answers are rounded).
Write the letter of the answer in the box containing the exercise number.

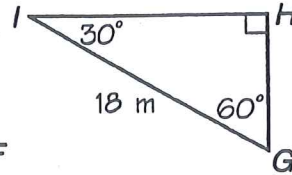
must show all answers as simplified Radicals 1st.



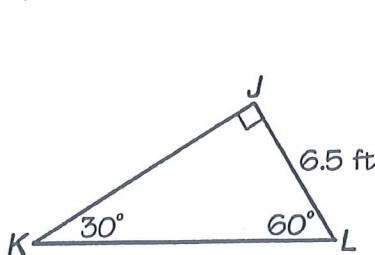
- $AB =$
- $CA =$



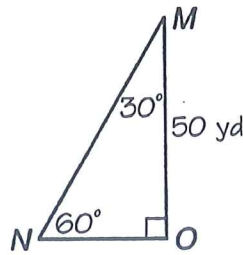
- $DE = FD =$



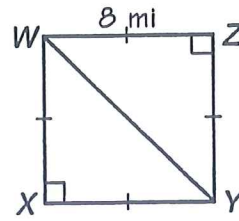
- $GH =$
- $HI =$



- $KL =$
- $JK =$



- $NO =$
- $MN =$



- $WY =$

Answers 1-9	Answers 10-18
T 62.2 yd	W 12.5 cm
E 13 ft	T 23.5 ft
F 31.1 yd	S 34.6 ft
O 13.3 cm	N 9.2 m
L 57.8 yd	G 11.3 mi
U 11.5 ft	E 79.2 ft
S 15.6 m	I 6.2 in.
V 11.2 in.	U 15.6 ft
E 9.4 cm	H 12.2 cm
I 11.3 ft	S 9.6 m
K 13.8 cm	B 21.2 ft
N 9 m	R 81.5 ft
H 28.9 yd	D 1.6 mi
M 15.2 m	E 6.5 in.
A 10.6 in.	Y 2.1 mi

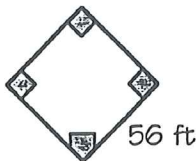
- In a 45° - 45° right triangle, the length of a leg is 4.6 in. How long is the hypotenuse?

- In a 45° - 45° right triangle, the length of the hypotenuse is 22 ft. How long is a leg of the triangle?

- In a 30° - 60° right triangle, the length of the side opposite the 30° angle is 7.2 cm. How long is the side opposite the 60° angle?

- In a 30° - 60° right triangle, the length of the side opposite the 60° angle is 8.3 m. How long is the hypotenuse?

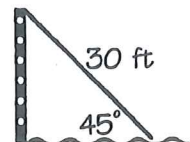
- The bases of a softball diamond are 56 ft apart. How far is it from home plate to second base?



- A hillside is inclined at an angle of 30° with the horizontal. How much elevation has Scott gained after hiking 3.2 mi up the hill?

- A 40-ft cable extends from the top of an electrical tower to the ground. If the cable forms a 60° angle with the ground, how tall is the tower?

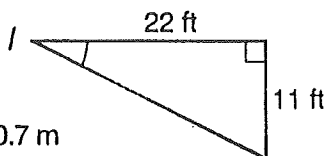
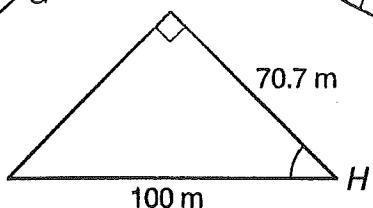
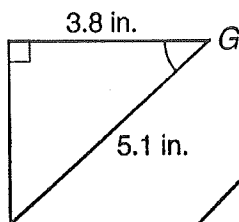
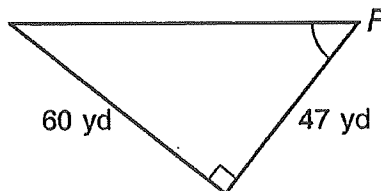
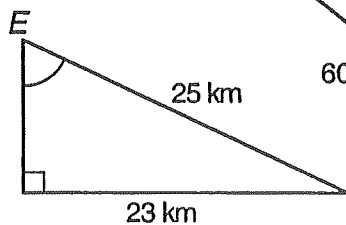
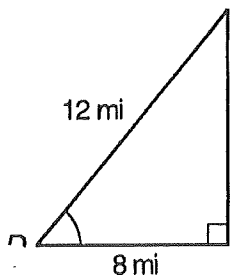
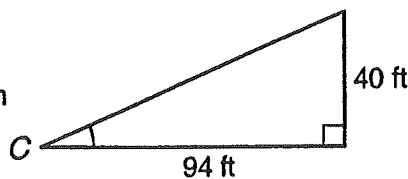
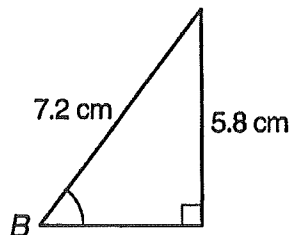
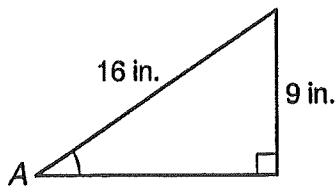
- A 30-ft waterslide forms a 45° angle with the surface of the water. How high is the top of the slide?



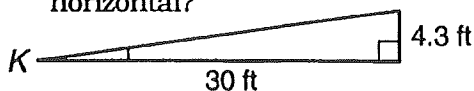
Did You Hear About . . .

A	B	C	D	E	F	G
H	I	J	K	L	M	N
						?

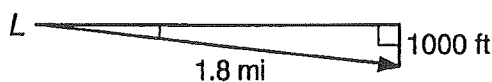
For each exercise, find the measure of the indicated angle (round to the nearest degree.)
Write the word next to the correct answer in the box that contains the vertex letter.



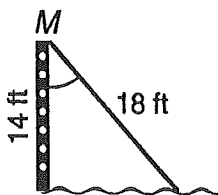
A wheelchair ramp rises 4.3 ft over a distance of 30 ft. What is the angle of the ramp with the horizontal?



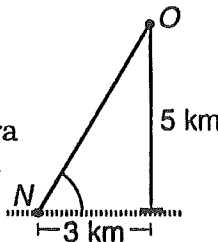
A plane descends 1000 ft while flying 1.8 mi. What is the angle of descent? (1 mi = 5280 ft)



The top of an 18-ft waterslide is 14 ft above the ground. What angle does the slide make with the vertical ladder?



Tracking a Rocket Launch. At what angle must a camera at point N be aimed to photograph a rocket at point O?



31° • POP

23° • BOTTLE

42° • LESSONS

57° • FIZZ

8° • BECOME

52° • MUSIC

48° • THAT

37° • SONG

27° • ORDER

34° • THE

59° • LITER

10° • WIN

67° • TOOK

50° • ON

39° • BAND

54° • SODA

4° • ONE

45° • IN

6° • A

70° • TO

8-5 Lesson Reading Guide***Angles of Elevation and Depression*****Get Ready for the Lesson**

Read the introduction to Lesson 8-5 in your textbook.

What does the angle measure tell the pilot?

Read the Lesson

1. Refer to the figure. The two observers are looking at one another. Select the correct choice for each question.

a. What is the line of sight?

- (i) line RS (ii) line ST (iii) line RT (iv) line TU

b. What is the angle of elevation?

- (i) $\angle RST$ (ii) $\angle SRT$ (iii) $\angle RTS$ (iv) $\angle UTR$

c. What is the angle of depression?

- (i) $\angle RST$ (ii) $\angle SRT$ (iii) $\angle RTS$ (iv) $\angle UTR$

d. How are the angle of elevation and the angle of depression related?

- (i) They are complementary.
 (ii) They are congruent.
 (iii) They are supplementary.
 (iv) The angle of elevation is larger than the angle of depression.

e. Which postulate or theorem that you learned in Chapter 3 supports your answer for part c?

- (i) Corresponding Angles Postulate
 (ii) Alternate Exterior Angles Theorem
 (iii) Consecutive Interior Angles Theorem
 (iv) Alternate Interior Angles Theorem

2. A student says that the angle of elevation from his eye to the top of a flagpole is 135° . What is wrong with the student's statement?

Remember What You Learned

3. A good way to remember something is to explain it to someone else. Suppose a classmate finds it difficult to distinguish between angles of elevation and angles of depression. What are some hints you can give her to help her get it right every time?

