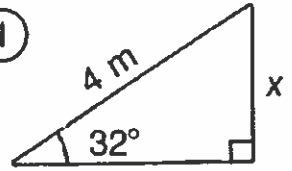
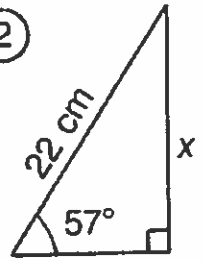
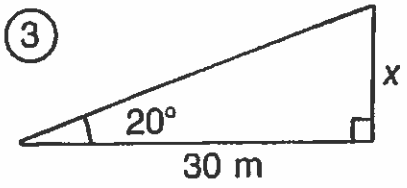
Monday

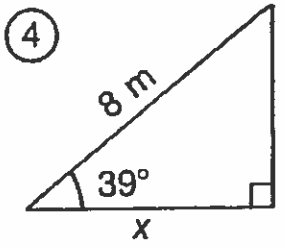
What Do They Call the Big Grass Field on an Orbiting Satellite?

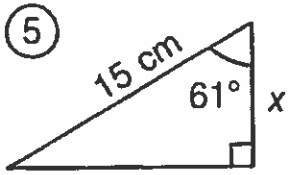
For the first eight exercises, find the length x. For the remaining exercises, find the length needed to solve the problem. Round each answer to the nearest tenth. Cross out each box that contains a correct answer. When you finish, write the letters from the remaining boxes in the spaces at the bottom of the page.

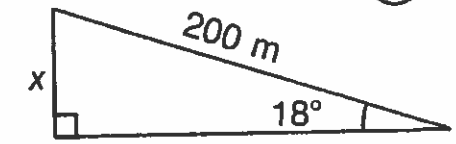
① 

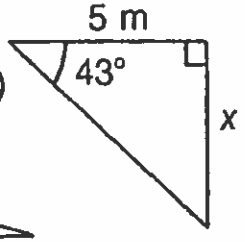
② 

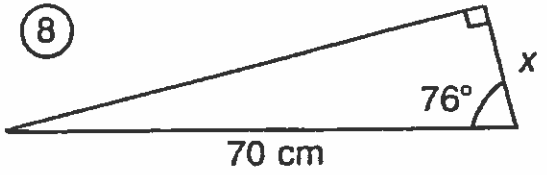
③ 

④ 

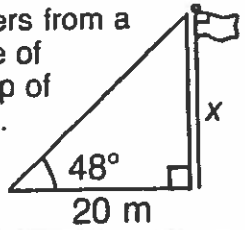
⑤ 

⑥ 

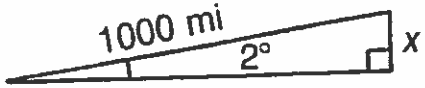
⑦ 

⑧ 

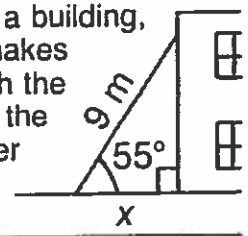
⑨ At a point 20 meters from a flagpole, the angle of elevation of the top of the flagpole is 48°. How tall is the flagpole?



⑩ If a rocket flies 2° off course for 1000 miles, how far from the correct path will the rocket be?



⑪ As it leans against a building, a 9-meter ladder makes an angle of 55° with the ground. How far is the bottom of the ladder from the base of the building?



TH 4.7 m	AP 5.4 m	ET 5.2 m	E 2.1 m	AR 23.5 m	UN 6.2 m	A 22.2 m	KI 28.7 mi	SS 61.8 m
RU 18.5 cm	NS 3.2 m	TO 7.3 cm	P 63.6 m	UP 34.9 mi	A 15.3 cm	KY 10.9 m	NI 16.9 cm	CE 17.1 cm

OBJECTIVE 5–c: To use trigonometric ratios to find lengths of sides of right triangles.

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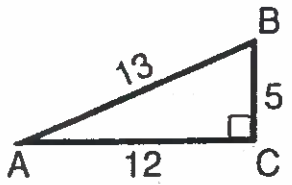
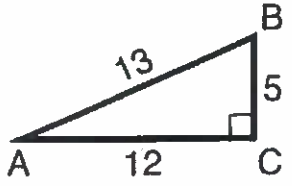
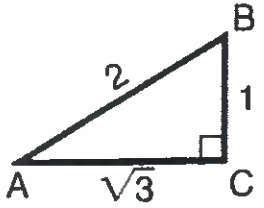
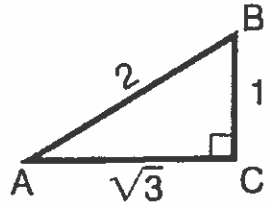
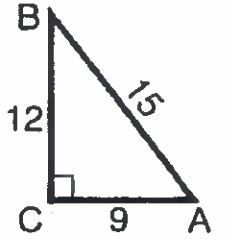
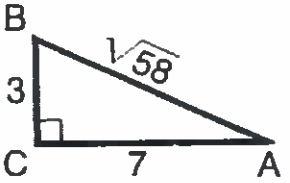
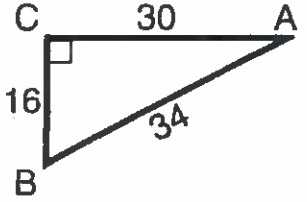
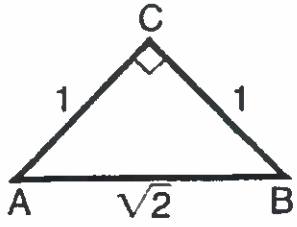
Monday

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

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

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.

(1) sin A (2) cos A (3) tan A	(I) $\frac{12}{13}$ (R) $\frac{5}{13}$ (E) $\frac{5}{12}$ (N) $\frac{13}{5}$		(13) sin A (14) cos A (15) tan A
(4) sin B (5) cos B (6) tan B	(L) $\frac{13}{5}$ (T) $\frac{5}{13}$ (A) $\frac{12}{13}$ (S) $\frac{12}{5}$		(16) sin B (17) cos B (18) tan B
(7) sin A (8) cos A (9) tan A	(E) $\frac{\sqrt{3}}{2}$ (I) $\frac{1}{2}$ (U) 2 (R) $\frac{1}{\sqrt{3}}$		(19) sin A (20) cos A (21) tan A
(10) sin B (11) cos B (12) tan B	(I) $\sqrt{3}$ (U) $\frac{1}{2}$ (A) $\frac{\sqrt{3}}{2}$ (P) $\frac{1}{\sqrt{3}}$		(22) sin A (23) cos A (24) tan A

(13) sin A (14) cos A (15) tan A	(D) $\frac{5}{3}$ (H) $\frac{3}{5}$ (F) $\frac{4}{3}$ (E) $\frac{4}{5}$		
(16) sin B (17) cos B (18) tan B	(I) $\frac{3}{\sqrt{58}}$ (A) $\frac{3}{7}$ (N) $\frac{7}{\sqrt{58}}$ (W) $\frac{7}{3}$		
(19) sin A (20) cos A (21) tan A	(R) $\frac{15}{17}$ (C) $\frac{8}{17}$ (S) $\frac{17}{8}$ (L) $\frac{8}{15}$		
(22) sin A (23) cos A (24) tan A	(T) $\frac{1}{\sqrt{2}}$ (T) $\frac{1}{\sqrt{2}}$ (B) 1 (N) $\sqrt{2}$		

14	3	17	6	10	23	8	1	20	12	15	7	19	24	11	5	22	13	9	2	16	21	4	18

ALGEBRA WITH PIZZAZZ!
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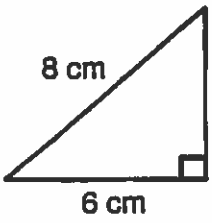
Tuesday

What Relation Is a Doorstep to a Doormat?

Round each answer to the nearest tenth (if necessary). Cross out the box containing each answer. When you finish, write the letters from the remaining boxes in the spaces at the bottom of the page.

(1) For each right triangle, find the length of the side that is not given.

A



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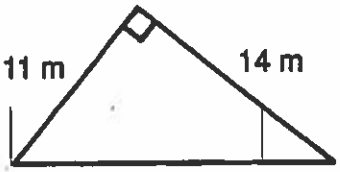

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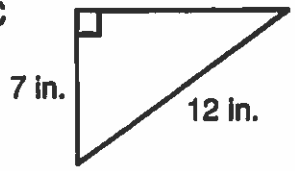
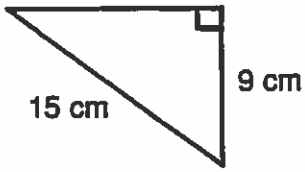
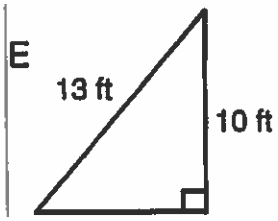


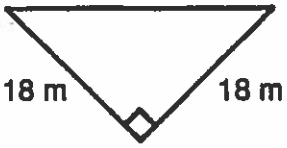
D



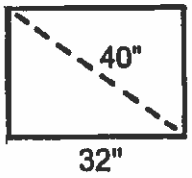
E



F

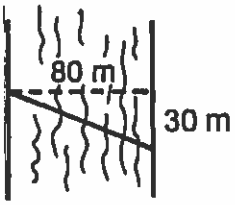


(2) Yuki just bought a big-screen TV set. The screen has a diagonal measure of 40 in. If the screen is 32 in. wide, how high is it?



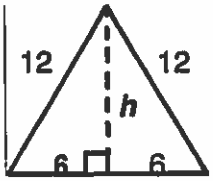
(3) A 25-foot ladder is leaned against a wall. If the base of the ladder is 7 ft from the wall, how high up the wall will the ladder reach?

(4) As Oregus swam across the 80-meter river, the current carried him 30 m downstream. How far did he swim?



@ The mast of a sailing ship is 20 ft tall. A rope is stretched 26 ft from the top of the mast to a cleat on the deck of the ship. How far is the cleat from the base of the mast?

(6) Each side of an equilateral triangle measures 12 cm. Find the height, *h*, of the triangle.



(7) Two jets left an airport at the same time. One traveled east at 300 miles per hour. The other traveled south at 400 miles per hour. How far apart were the jets at the end of an hour?

PL 85.4 m	DO 12 cm	AS 9.8 cm	OR 24 in.	MA 500 mi	TE 26 in.	AM 5.3 cm	RU 10.4 cm	PF 520 mi
ON 25.5 in.	AR 9.4 in.	UN 17.8 m	PA 16.6 ft	TH 87.1 m	IN 9.7 in.	AT 24 ft	ER 18.5 ft	AN 8.3 ft

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Tuesday

• DAFFYNITION DECODER •

EUROPE:

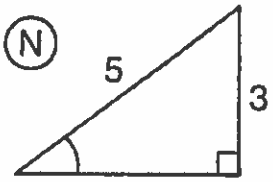
30°	42°	21°	24°	74°	2°	21°	24°	37°	49°	2°	42°	17°	32°	5°	2°

UNDERGROUND GARAGE:

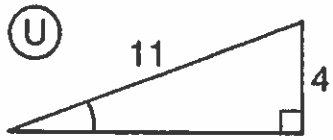
46°	5°	9°	9°	28°	2°	42°	7°	46°	5°	9°	9°	7°	51°	5°	24°	68°	34°	2°

TO DECODE THE TWO DAFFYNITIONS ABOVE: For the first nine exercises, find the measure of the angle indicated. For the remaining exercises, find the angle measure needed to solve the problem. Round to the nearest degree. Each time the answer appears in the code, write the letter of the exercise below it.

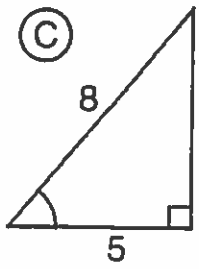
(N)



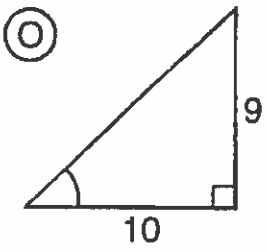
(U)



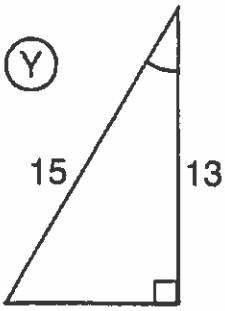
(C)



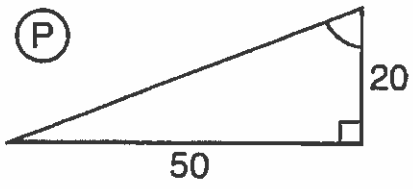
(O)



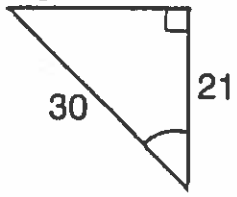
(Y)



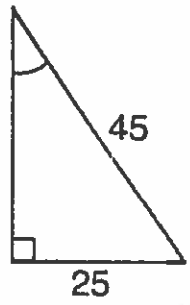
(P)



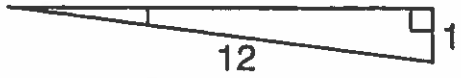
(W)



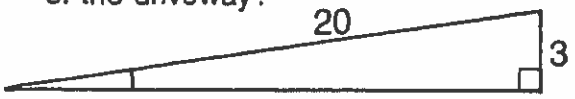
(I)



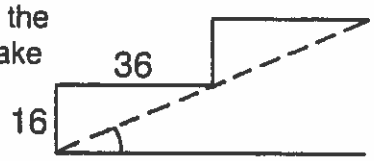
(A)



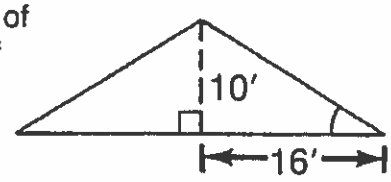
(L) A driveway is built on an incline so that it rises 3 m over a distance of 20 m. What is the angle of elevation of the driveway?



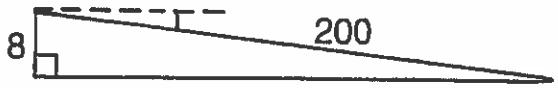
(R) Each step of a stairway rises 16 cm for a tread width of 36 cm. What angle does the stairway make with the floor?



(B) A roof is constructed as shown in the diagram. Find the pitch (angle of elevation) of the roof.



(T) A train decreases its altitude by 8 m when traveling along 200 m of track. Find the angle of depression of the track.



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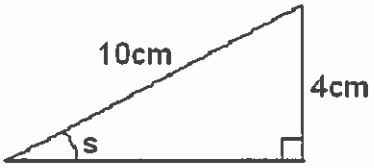
OBJECTIVE 5–d: To use trigonometric ratios to find measures of angles of right triangles.

Wednesday

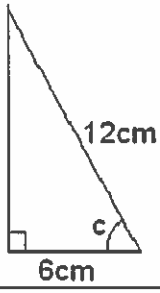
Trigonometry Worksheet T4 – Calculating Angles

Work out the angles labelled. Question 1 requires Sine, question 2 requires Cosine, and question 3 requires Tangent. The rest .... you will need to work out which to use!

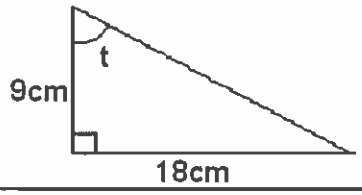
1.



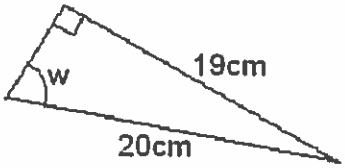
2.



3.



4.



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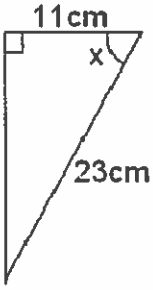

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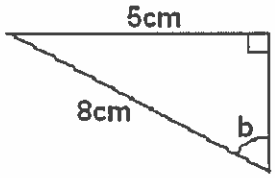

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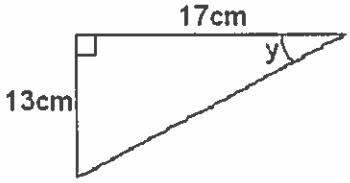

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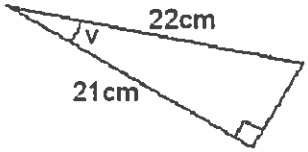

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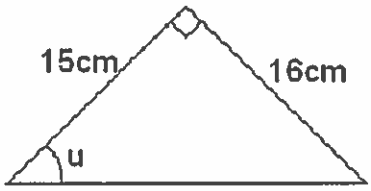
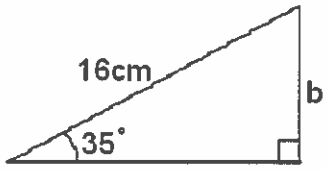


Wednesday

Trigonometry Worksheet T3 – Calculating Sides

Work out the sides labelled. Questions 1 and 2 require Sine, questions 3 and 4 require Cosine, question 5 and 6 require Tangent. The rest .... you will need to work out which to use and how! (Worksheet T1 may help you!!)

1.



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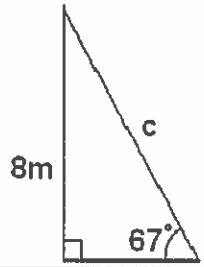

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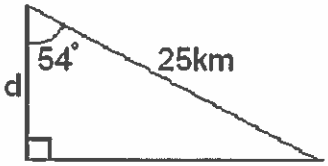

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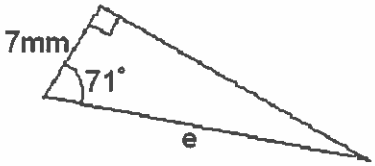

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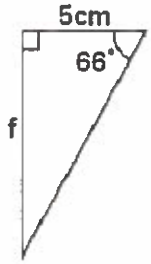

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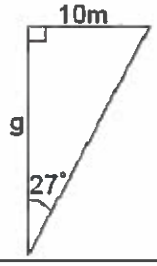

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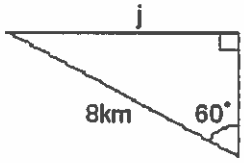

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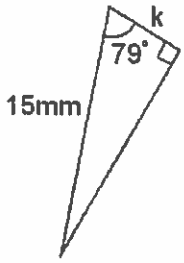

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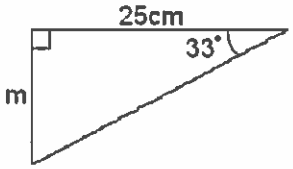

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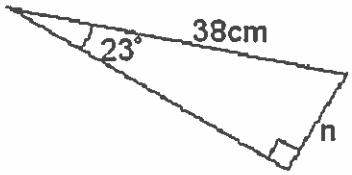

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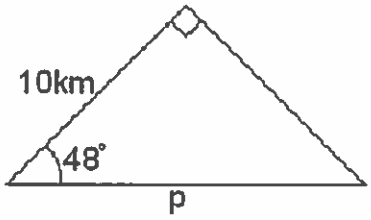

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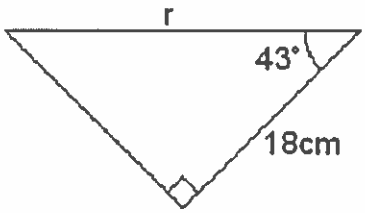

Thursday

5.8 Special Right Triangles Worksheet Name: _____

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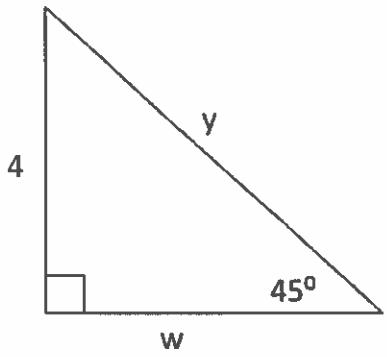

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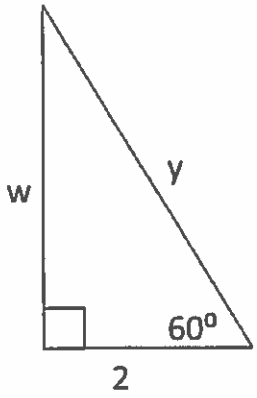

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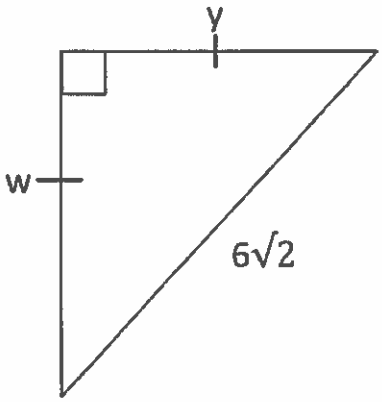

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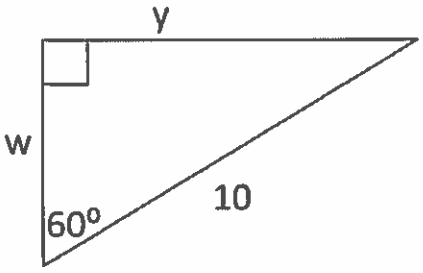

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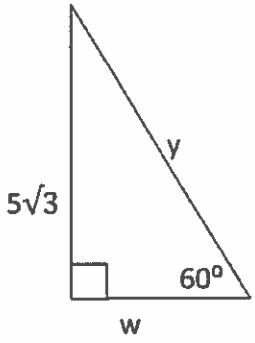

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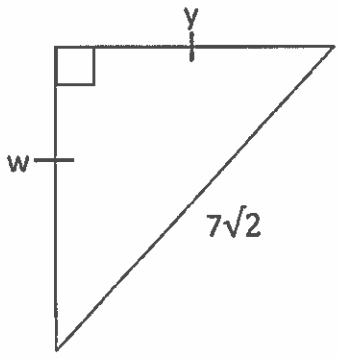

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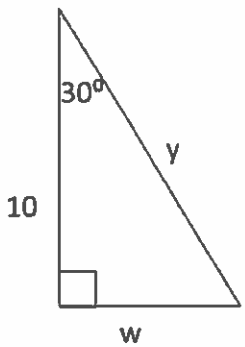

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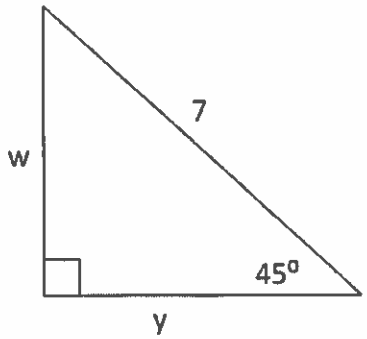

5.8 Special Right Triangles Worksheet Name: _____

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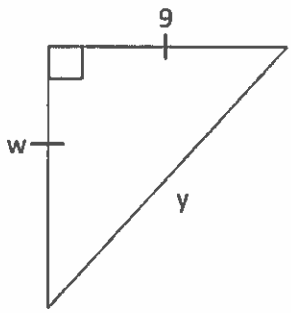

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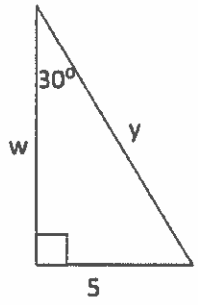

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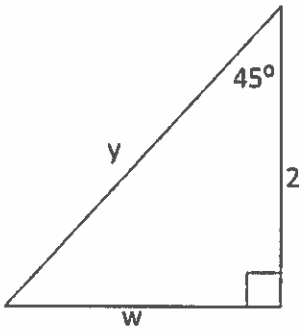

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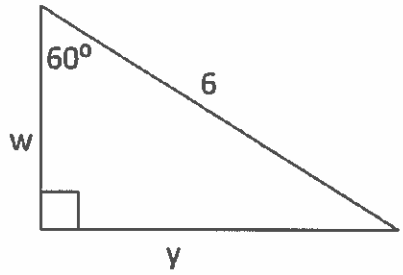

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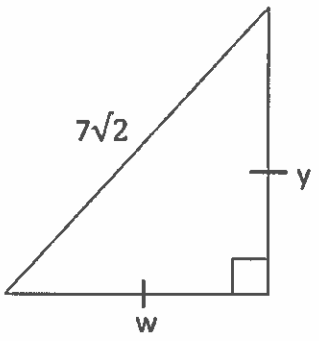

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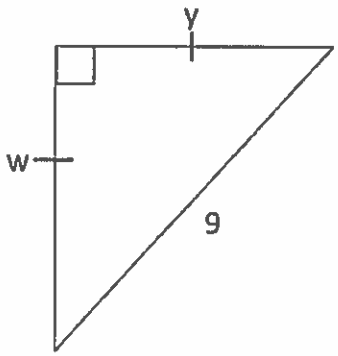


15. The shortest side of a 30^0-60^0-90^0 triangle is 15. Find the lengths of the other sides.

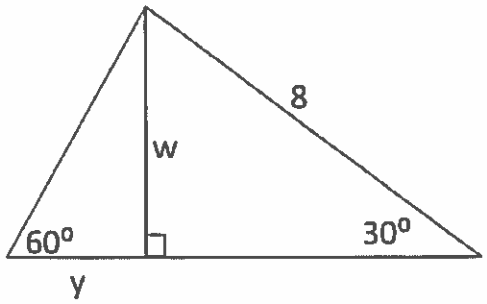
16. The hypotenuse of a 30^0-60^0-90^0 triangle is 18. Find the lengths of the other sides.

17. One leg of a 45^0-45^0-90^0 triangle is 9. Find the lengths of the other sides.

Thursday

5.8 Special Right Triangles Worksheet Name: _____

18.



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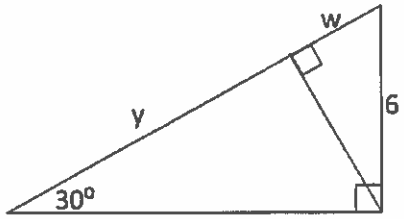

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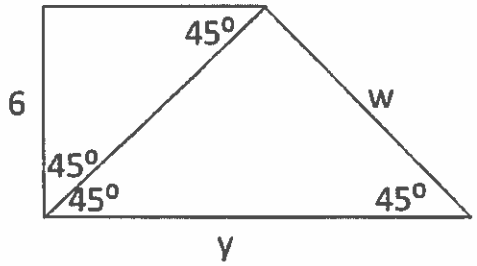

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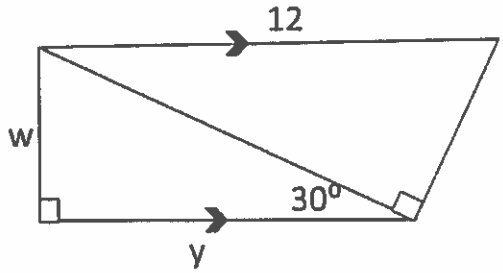

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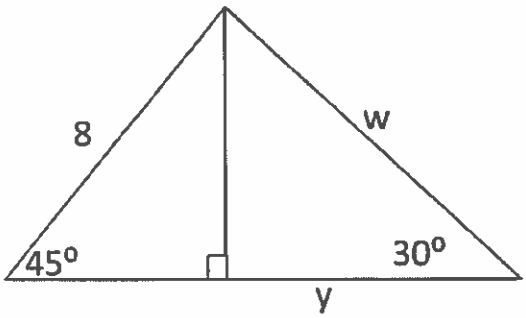

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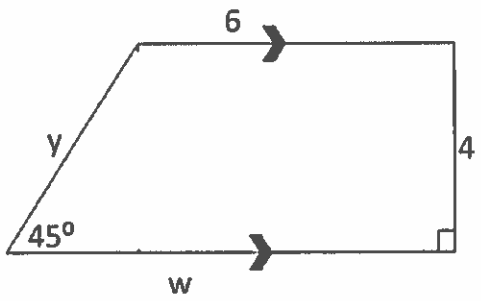
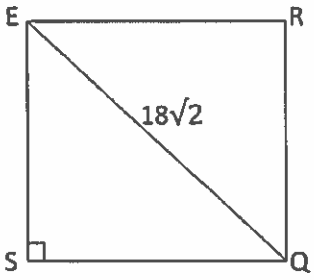
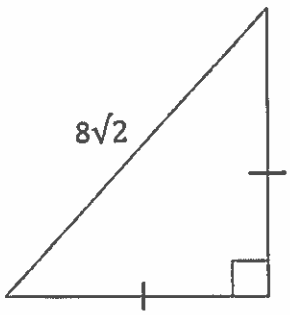


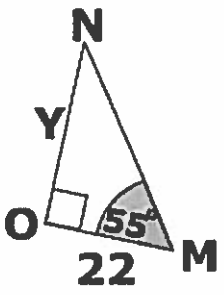
24. What is the perimeter of square SQRE?



25. What is the area of this triangle?

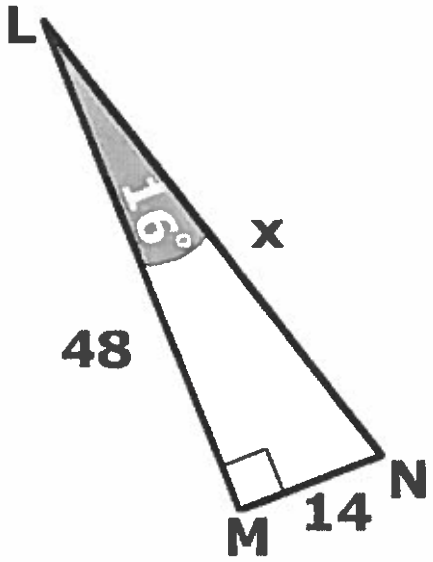


Friday

3. What is Y in the triangle on the left? **4.** What is the length of $\overline{NM}$?	

5. Use SOHCAHTOA to find the value of X.

6. What is another way that you could find the value of X?



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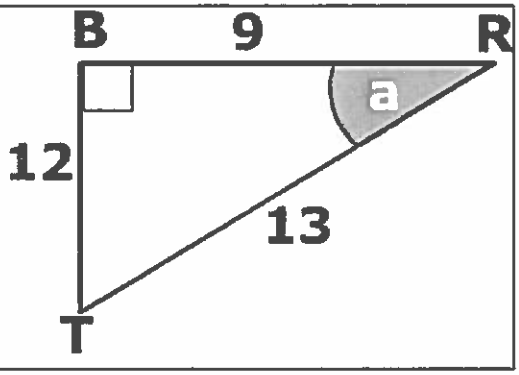
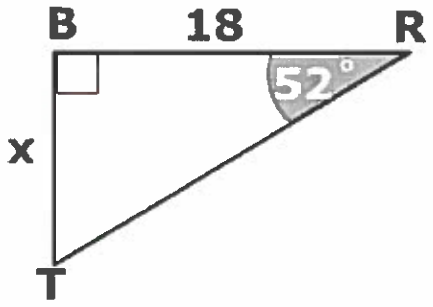
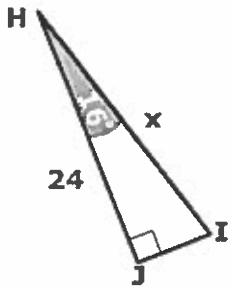
TEACHERS: Feel free to make copies of this worksheet for the sole purpose of classroom use.
ENJOY!!!

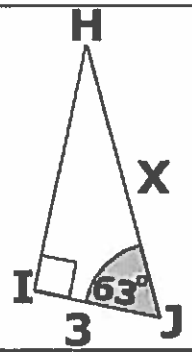
Friday

Find the sine, cosine and tangent of ∠a. 5. sin(a):_____ 6. cos(a) :_____ 7. tan(a) :_____	

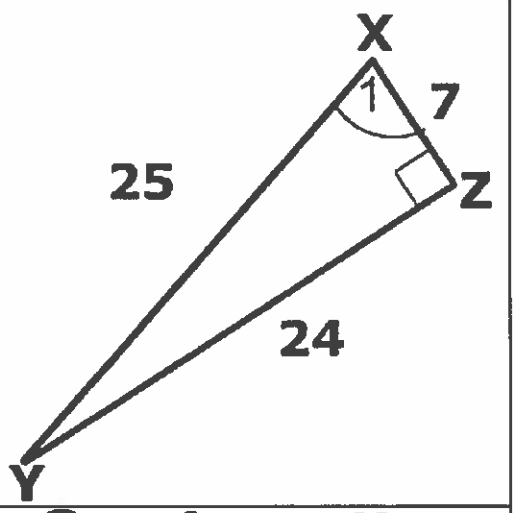
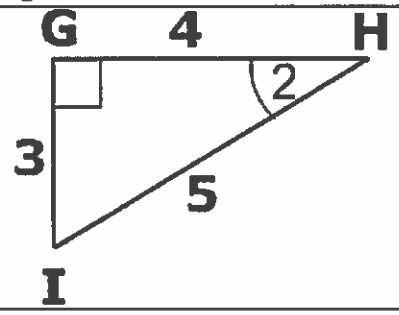
More challenging Problems:

8. What is X? **9.** How long is the hypotenuse of this triangle?	
10. What is X? **11.** How long is the side IJ?	

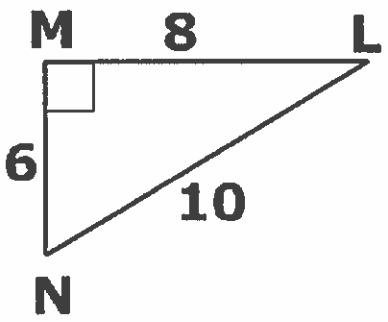
IV Using SOHCAHTOA to find a side of a triangle.
Answers Below at www.mathwarehouse.com/trigonometry/sine-cosine-tangent-practice3.html

1) What is x in the triangle on the left? 2) What is the length of $\overline{HI}$?	

Friday

6. How long is the side opposite of ∠1? 7. How long is the hypotenuse? 8. What is sin(∠1)? 9. How long is the side adjacent to ∠1? 10. What is cos(∠1)?	
11. What is cos(∠2)? 12. What is sin(∠2)? 13. What is tan(∠2)?	

III. Sine, Cosine, Tangent. Problems
Answers @ www.mathwarehouse.com/trigonometry/sine-cosine-tangent-practice2.html

1. What side is adjacent to ∠MLN? 2. What is the hypotenuse? 3. Calculate cos(∠MLN): 4. Calculate cos(∠LMN)	

Friday

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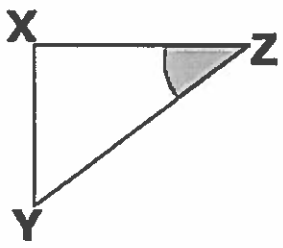
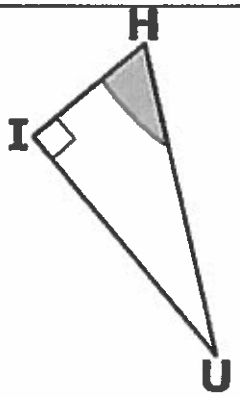
SOHCAHTOA WORKSHEET

(Sine, cosine and tangent)

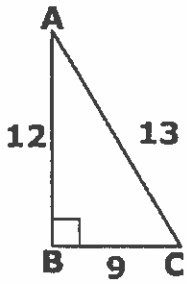
Part I

Identifying Opposite, Adjacent and Hypotenuse

Answers available at www.mathwarehouse.com/trigonometry/sine-cosine-tangent.html

1. Identify the side that is opposite of $\angle$YZX _____ **2.** Identify the side that is adjacent to $\angle$YZX _____	
3. Identify the sides that are opposite and adjacent to $\angle$IHU. Opposite Side:_____ Adjacent Side:_____	

Part II

Answers @ www.mathwarehouse.com/trigonometry/sine-cosine-tangent-practice.html

1. How long is the side opposite of $\measuredangle$**ACB?** **2.** How long is the hypotenuse? **3.** What is sin($\measuredangle$ACB)? **4.** How long is the side adjacent to $\measuredangle$**ACB?** **5.** What is cos($\measuredangle$ACB)?