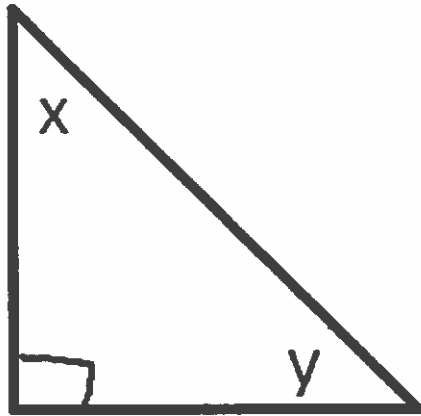


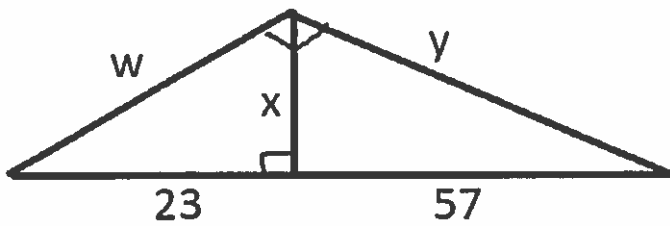
1. THE $\cos(x) = \frac{29}{52}$. FIND THE $\cos(x)$ AND $\sin(y)$



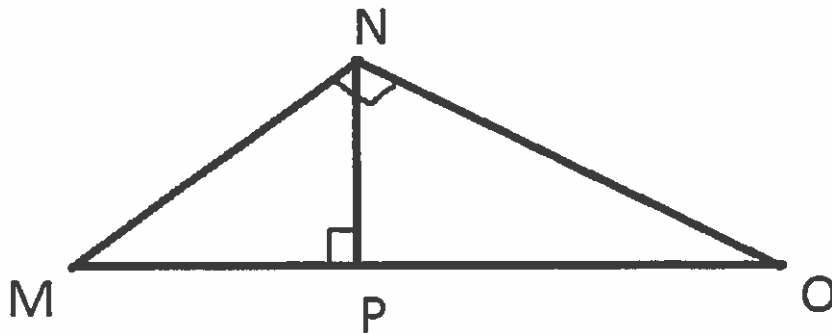
$$\sin(x) = \frac{\square}{\square}$$

$$\tan(y) = \frac{\square}{\square}$$

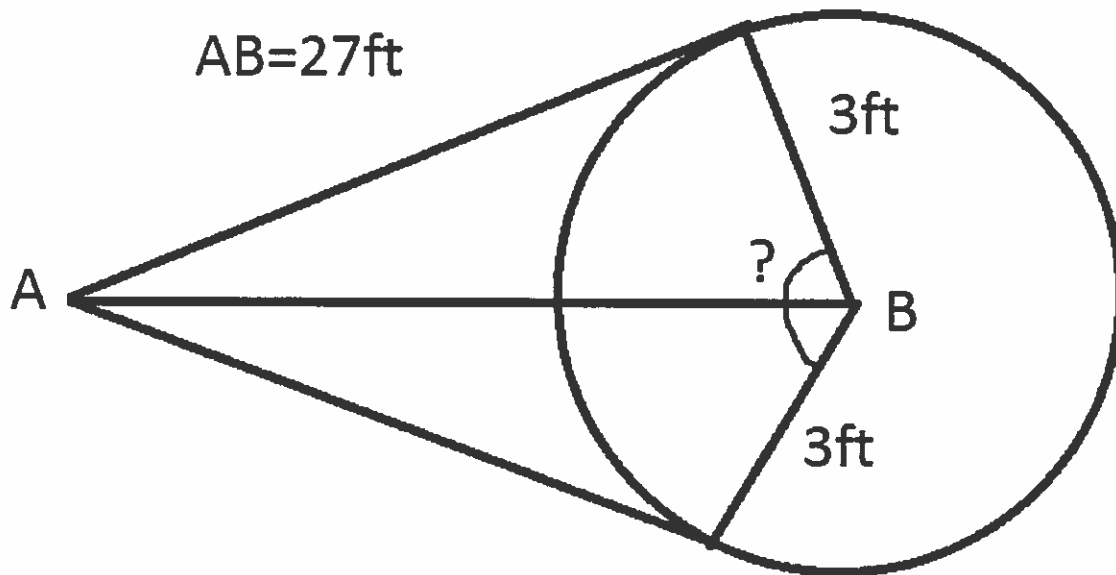
2. Solve for W, Y, and X.



3. For the figure below, what triangle is similar to $\triangle MNO$?



4. What is the arc angle in this picture?



5. The bottom of a 13-foot straight ladder is set into the ground 5 feet away from a wall. When the top of the ladder is leaned against the wall, what is the distance above the ground it will reach?

6. In the Old West, settlers made tents out of a piece of cloth thrown over a clothesline and then secured to the ground with stakes forming an isosceles triangle. How long would the cloth have to be so that the opening of the tent was 6 feet high and 8 feet wide?

7. Your family wants to purchase a new laptop with a 17" widescreen. Since the 17 inches represents the diagonal measurement of the screen (upper corner to lower corner), you want to find out the actual dimensions of the laptop. When you measured the laptop at the store, the height was 10 inches, but you don't remember the width. Calculate and describe how you could figure out the width of the laptop to the nearest tenth inch.

8. A wooden beam 24 feet long leans against a wall and makes an angle of 71° with the ground. How high up the wall does the beam reach to the nearest foot?

9. A ladder leaning against a building makes an angle of 65° with the ground and reaches a point on the building 20 feet above the ground. What is the length of the ladder to the nearest foot?

10. The top of a ladder leaning against a building reaches a point on the building which is 29 feet above the ground. If the base of the ladder is 7 feet from the building, what is the measure of the angle that the ladder makes with the level ground to the nearest degree?

11. A 20-foot pole leaning against a wall reaches a point 18 feet above the ground. What is the angle which the pole makes with the ground to the nearest degree?

12. A boy visiting Chicago views the Sears Tower from a point on the ground which is 1,240 feet from the base of the building. The angle of elevation from the boy to the top of the building is 49° . What is the height of the building to the nearest foot?

5. A wire attached to the top of a pole reaches a stake in the ground 20 feet from the foot of the pole and makes an angle of 58° with the ground. Find the length of the wire.

6. Henry is flying a kite. The kite string makes an angle of 43° with the ground. If Henry is standing 100 feet from a point on the ground directly below the kite, find the length of the kite string.

7. A 25 foot ladder leans against a building. The ladder's base is 13.5 feet from the building. Find the angle which the ladder makes with the ground.

8. In order to reach the top of a hill which is 250 feet high, one must travel 2000 feet straight up a road which leads to the top. Find the number of degrees contained in the angle which the road makes with the horizontal.

9. A ladder leans against a building. The top of the ladder reaches a point on the building which is 18 feet above the ground. The foot of the ladder is 7 feet from the building. Find the measure of the angle which the ladder makes with the level ground.

Algebra

Practice Page

For Thursday

Practice with Trigonometry - Set 1

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**Test your skills on the following problems.
Grab your calculator and a piece of paper.**

1. In right triangle ABC, $c = 17$, $a = 15$, $b = 8$ and angle C is a right angle. Express $\tan B$.



Choose:

- 8/17
 15/17
 8/15

Explanation

2. 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.



Choose:

- 2.0 feet
 3.5 feet
 5.7 feet
 6 feet

Explanation

3. A piece of lumber leans against a wall. The top of this 40 foot piece of lumber touches a point on the wall that is 36 feet above the ground. Find to the *nearest*

Choose:

- 26°
 38°
 64°

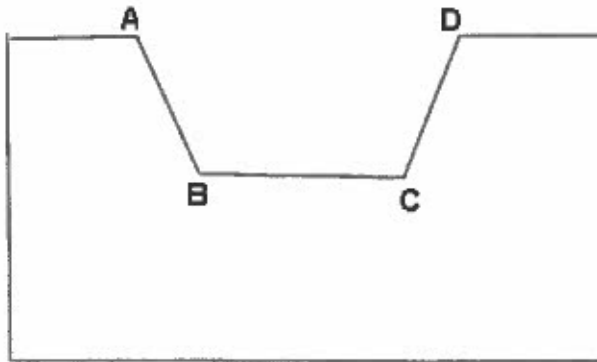
degree the measure of the angle that the lumber makes with the wall.



Explanation ▼

Challenger:

4.



Choose:

- 0.21
 0.42
 1.21

Angle B and C are each 92° . AB and CD each equal 6 feet. The distance from A to D is how much larger than the distance from B to C (to the *nearest hundredth*). (You may assume in this figure that the top, the bottom, and side BC are all horizontal. Also assume that a segment connecting point A to point D will be horizontal.)



Explanation ▼



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Algebra

Practice Page

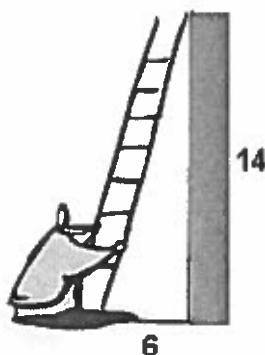
For
Thursday

Practice with Trigonometry - Set 2

[Topic Index](#) | [Algebra Index](#) | [Regents Exam Prep Center](#)

Answer the following questions pertaining to right triangles.
Have your calculator ready and a piece of paper.

1.



A ladder leans against a building. The foot of the ladder is 6 feet from the building. The ladder reaches a height of 14 feet on the building.

a. Find the length of the ladder to the *nearest foot*.

Choose:

- 14 15 15.2 16

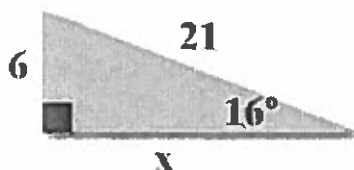
b. Find to the *nearest degree*, the angle the ladder makes with the ground.

Choose:

- 23 24 66 67

Explanation ▼

2.



Which statement can NOT be used to find the

Choose:

- $\tan 16 = \frac{6}{x}$
- $\cos 16 = \frac{x}{21}$

length of x ?

$\tan 74 = \frac{x}{6}$

$\tan 16 = \frac{x}{6}$

3.

From a point on the ground 25 feet from the foot of a tree, the angle of elevation of the top of the tree is 32° . Find to the *nearest foot*, the height of the tree.



Answer

4.

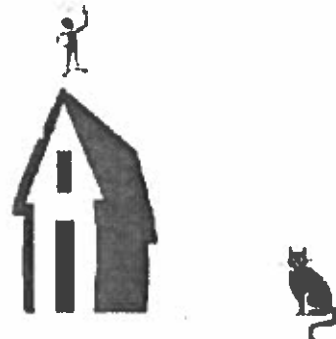


The figure shown on the left is a trapezoid. Using the information given, find the area of this trapezoid to the *nearest square unit*.

Answer

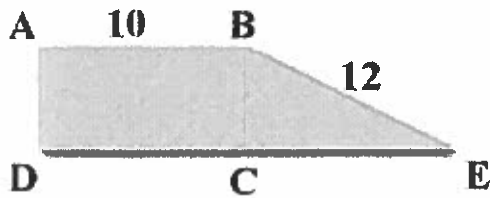
5.

From the top of a barn 25 feet tall, you see a cat on the ground. The angle of depression of the cat is 40° . How many feet, to the *nearest foot*, must the cat walk to reach the barn?



Answer

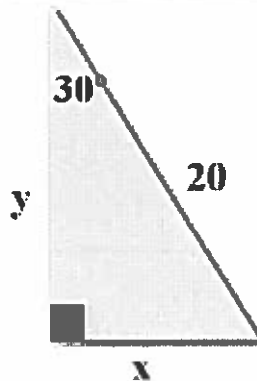
6.



In the figure on the left, ABCD is a rectangle whose perimeter is 30. The length of BE is 12. Find to the *nearest degree*, the measure of angle E.

Answer

7.



a. Find x.

a. Choose:

b. Find y.

- 5
 10
 14.1
 17.3



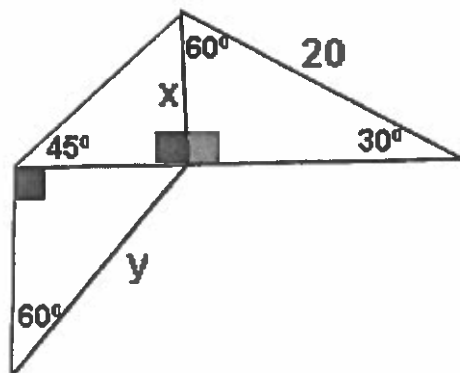
b. Choose:

- 5
 10
 14.1
 17.3

Explanation

8.

This is a hard problem!!!



a. Find x.

a. Choose:

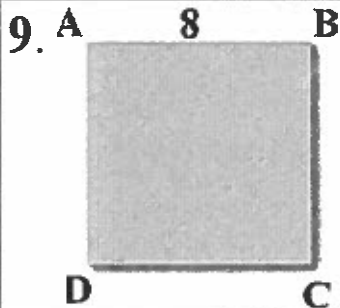
b. Find y.

- 10
 14.1
 17.3

b. Choose:

- 10
 11.5
 15.2
 17.3

Explanation

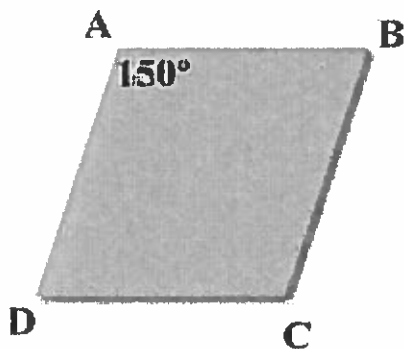


In the figure on the left, ABCD is a square whose side is 8 units. Find the length of diagonal AC to the *nearest tenth*.

Answer

10. In the figure below, ABCD is a rhombus. The measure of angle A is 150° . Draw the diagonals so that they intersect at E. The shorter diagonal measures 10.

Properties of a rhombus: The diagonals are perpendicular.
The diagonals bisect each other.
The diagonals bisect the angles.



- What is the measure of angle DEC?
- What is the length of the sides of the rhombus to the *nearest integer*?
- What is the length of the longer diagonal to the *nearest integer*?
- Using your answer from part c and the given diagonal length of 10, find the area of the rhombus.

Answer

11.

Choose:

In $\triangle MCT$, the $m\angle T = 90^\circ$, $MC = 85$ cm,
 $CT = 84$ cm, and $TM = 13$ cm.

Which ratio represents the sine of $\angle C$?

$\frac{13}{85}$

$\frac{84}{85}$

$\frac{13}{84}$

$\frac{84}{13}$



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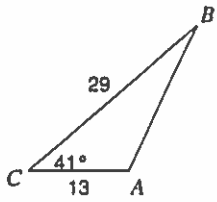
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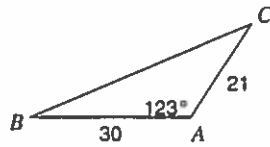
The Law of Cosines

Find each measurement indicated. Round your answers to the nearest tenth.

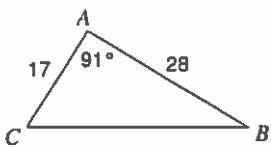
1) Find AB



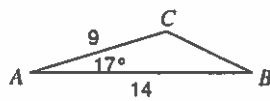
2) Find BC



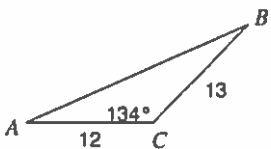
3) Find BC



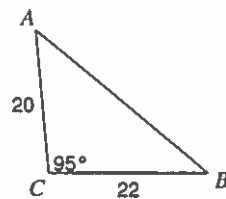
4) Find BC



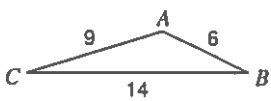
5) Find AB



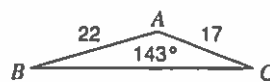
6) Find AB



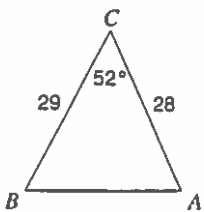
7) Find $m\angle A$



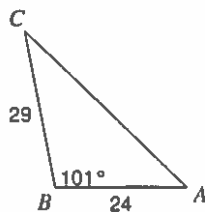
8) Find $m\angle B$



9) Find $m\angle A$



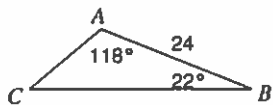
10) Find $m\angle C$



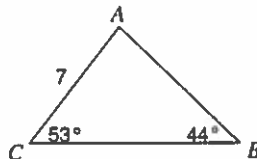
The Law of Sines

Find each measurement indicated. Round your answers to the nearest tenth.

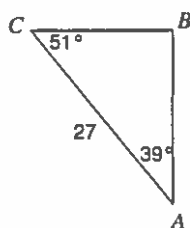
1) Find AC



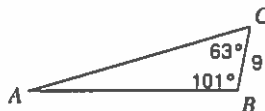
2) Find AB



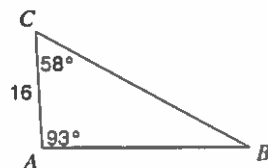
3) Find BC



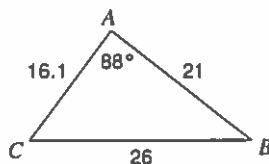
4) Find AB



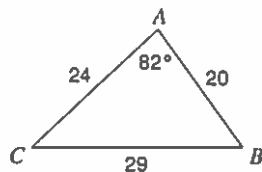
5) Find BC



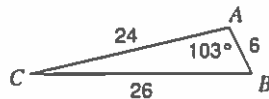
6) Find $m\angle C$



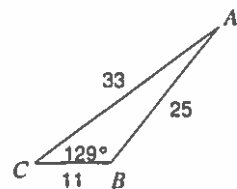
7) Find $m\angle C$



8) Find $m\angle C$



9) Find $m\angle A$



10) Find $m\angle C$

