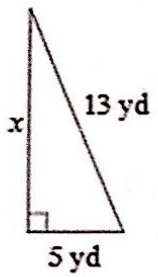
Name_____ Analytic Geometry

Date _____ Period _____ Ch. 9/10 Practice

Find the missing side of each triangle in simplified radical form. Then, find the perimeter and area for each figure.

1)

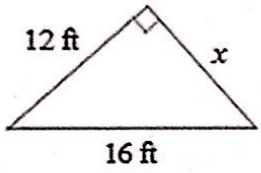


$x = 12$

$P = 30$

$A = 30$

2)

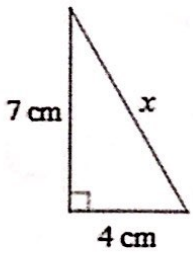


$x = 4\sqrt{7}$

$P = 28 + 4\sqrt{7}$

$A = 24\sqrt{7}$

3)

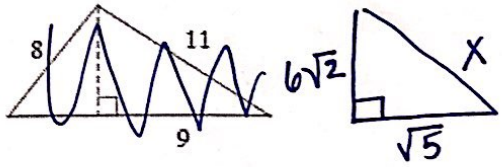


$x = \sqrt{65}$

$P = 11 + \sqrt{65}$

$A = 14$

4)



$x = \sqrt{77}$

$P = 6\sqrt{2} + \sqrt{5} + \sqrt{77}$

$A = 3\sqrt{10}$

5) In a 45-45-90 Triangle, how do you go from leg to hypotenuse? multiply by $\sqrt{2}$

From hypotenuse to leg? divide by $\sqrt{2}$

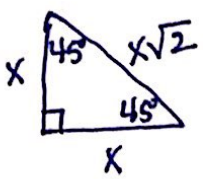
6) In a 30-60-90 Triangle, how do you go from short leg to long leg? multiply by $\sqrt{3}$

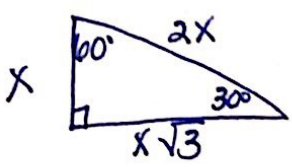
From long leg to short leg? divide by $\sqrt{3}$

From short leg to hypotenuse? multiply by 2

From hypotenuse to short leg? divide by 2

7) Can you draw the rules for both special right triangles?

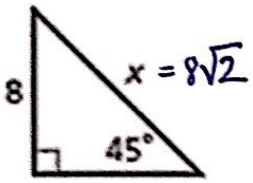




Find the missing lengths of the special right triangles.

Find the values of the variables. Give your answers in simplest radical form.

11.



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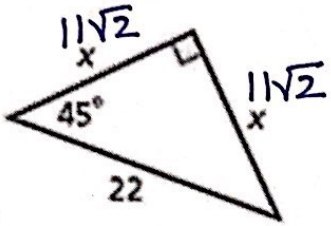

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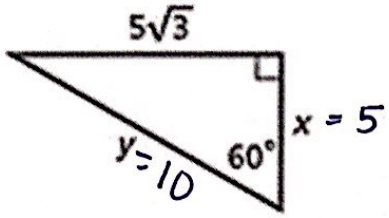

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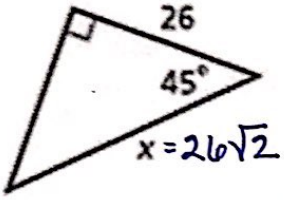

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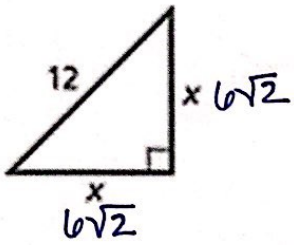

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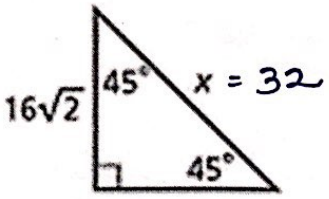

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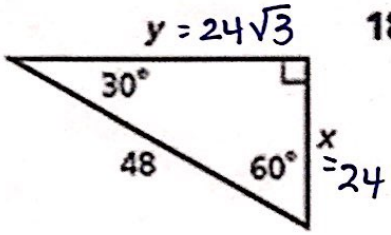

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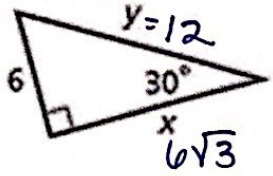

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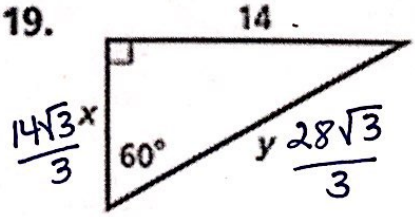
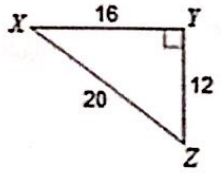


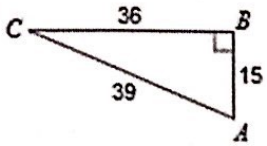
Find the value of each trigonometric ratio as a fraction and decimal

20) $\cos X$



$\frac{4}{5}$ 0.8

21) $\sin A$



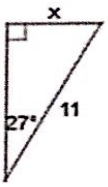
$\frac{12}{13}$ 0.92

22) What is the acronym we use to remember our trig ratios? SOHCAHTOA

What does each part mean? $\sin\theta = \frac{opp}{hyp}$ $\cos\theta = \frac{adj}{hyp}$ $\tan\theta = \frac{opp}{adj}$

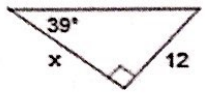
Find the missing side. Round to the nearest tenth.

23)



$x = 5.0$

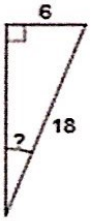
24)



$x = 14.8$

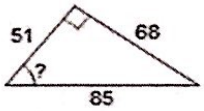
Find the measure of the indicated angle to the nearest degree.

25)



$\theta = 19.5°$

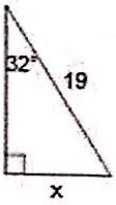
26)



$\theta = 53.1°$

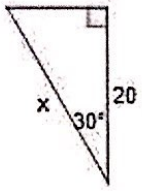
Find the missing side. Round to the nearest tenth.

1)



$x = 10.1$

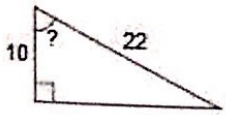
2)



$x = 23.1$

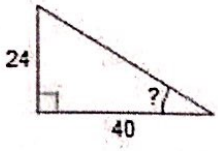
Find the measure of the indicated angle to the nearest degree.

3)



$\theta = 63°$

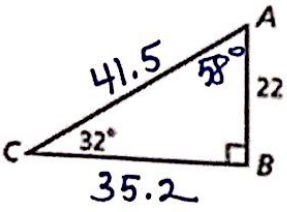
4)



$\theta = 31°$

Find the unknown measures. Round lengths to the nearest hundredth and angle measures to the nearest degree.

10.



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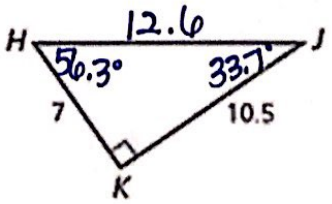

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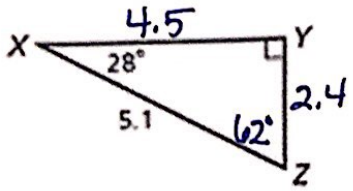

An observer in a blimp sights a football stadium at an angle of depression of 34°. The blimp's altitude is 1600 ft. What is the horizontal distance from the blimp to the stadium? Round to the nearest foot.

31)

2372.1 ft

When the angle of elevation of the sun is 78°, a building casts a shadow that is 6 m long. What is the height of the building to the nearest tenth of a meter?

32)

28.2 m

A damsel is in distress and is being held captive in a tower. Her knight in shining armor is on the ground below with a ladder. When the knight stands 15 feet from the base of the tower and looks up at his precious damsel, the angle of elevation to her window is 60 degrees. How long does the ladder have to be?

30 ft

You are 200 yards from a river. Rather than walking directly to the river, you walk 400 yards along a straight path to the river's edge. Find the acute angle between path and the river's edge.

$\theta = 30°$

A 12 meter flagpole casts a 9 meter shadow. Find the angle of elevation of the sun.

$\theta = 53.1°$

A train is riding down a mountain that covers a diagonal distance of 1234 meters. If the angle of elevation to the top of the mountain is 47 degrees, what is the horizontal distance that the train covers?

841.6 m

Suggestions:

Study your notes from chapters 9 and 10.

Make corrections on the 9.1-9.2 Quiz

Study your word problem notes and worksheet

Study, just study.... like actually sit down and STUDY! YOU can do this!