Secondary Math 2 Honors Name_____

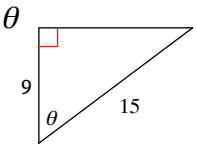
Unit 8 Trigonometry Review

Date_____ Period____

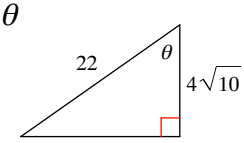
1) Desecribe trigonometry in your own words.

Find the value of the trig function indicated.

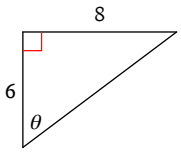
2) cot θ



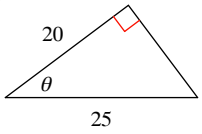
3) sin θ



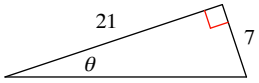
4) tan θ



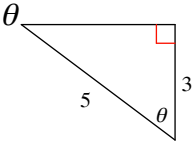
5) sec θ



6) cos θ

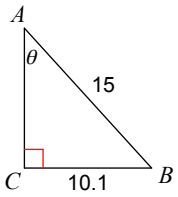


7) csc θ



Find the measure of each angle indicated. Round to the nearest hundreth.

8)



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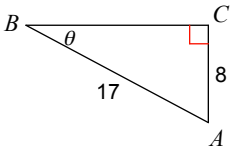

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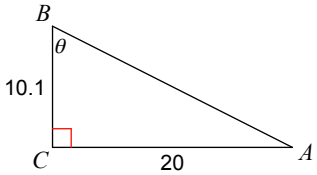

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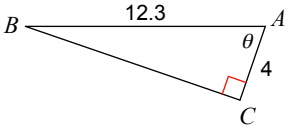
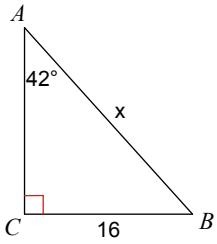


Find the measure of each side indicated. Round to the nearest hundreth.

12)



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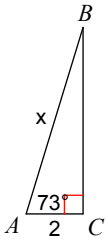

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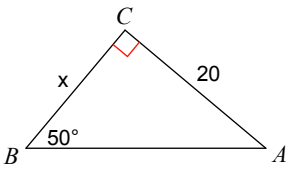

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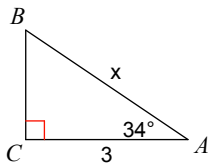
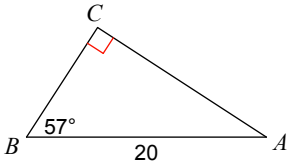


Solve each triangle. Round answers to the nearest hundreth.

16)

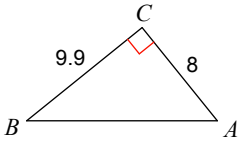


17) AB=_____ m∠*A*=_____

BC=_____ m∠*B*=_____

AC=_____ m∠*C*=_____

18)



19) AB=_____ m∠*A*=_____

BC=_____ m∠*B*=_____

AC=_____ m∠*C*=_____

20) From the top of a fire tower, a forest ranger sees his partner on the ground at an angle of depression of 40º. If the tower is 45 feet high, how far is the partner from the base of the tower?

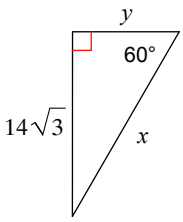
21) A ladder leans against a brick wall. The foot of the ladder is 6 feet from the wall. The ladder reaches a height of 15 feet on the wall. What is the angle the ladder makes with the wall?

22) Find the shadow cast by a 10 foot lamp post when the angle of elevation from the end of the shadow to the top of the lampost is 58º.

23) A nursery plants a new tree and attaches a guy wire to help support the tree while its roots take hold. An eight foot wire is attached to the tree and to a stake in the ground. From the stake in the ground, the angle of elevation of the connection with the tree is 42º. Find, to the nearest hundreth of a foot, the height of the connection point on the tree.

Find the missing side lengths. Leave your answers as radicals in simplest form.

24)



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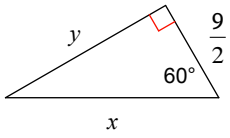

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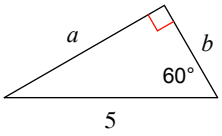

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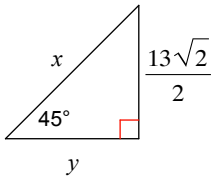

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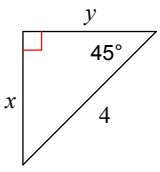

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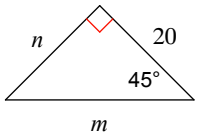

30) Explain why $\sin\theta = y$ and $\cos\theta = x$. Use a diagram to help your explanation.

31) Show why the coordiates at 30° are $\left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$. Use a diagram and a written explanation.

Find the exact value of each trigonometric function.

32) cos 120°

33) tan 90°

34) sin 240°

35) sin 150°

36) cos 90°

37) tan 60°

38) tan 120°

39) cos 315°

40) Name the three pythagorean identities. Explain where each one comes from.

Simplify each trigonometric expression.

41) $\frac{\sec \theta}{\csc \theta}$

42) $\frac{(1 + \sin \theta)(1 - \sin \theta)}{1 - \cos^2 \theta}$

43) $\tan\theta \cdot (\cot\theta + \tan\theta)$

44) $\dfrac{\cos^3\theta + \cos\theta\sin^2\theta}{\sec\theta} - 1$

45) $1 + \sec^2\theta\sin^2\theta$

46) $(\csc\theta + \cot\theta)(\csc\theta - \cot\theta)$

47) $-\dfrac{\sin\theta}{\csc\theta} - \dfrac{\cos\theta}{\sec\theta}$

48) $\dfrac{1 - \tan^2\theta}{\cot^2\theta - 1}$