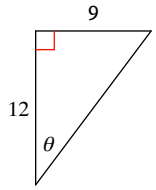
Secondary Math 2 HONORS Name_____

Unit 7 Right Triangle Trig Review

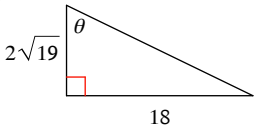
Date_____ Period____

Find the value of the trig function indicated.

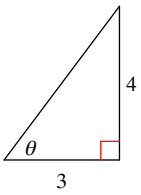
1) sin θ



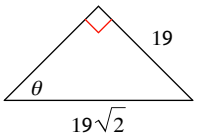
2) csc θ



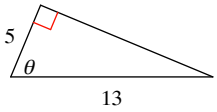
3) sec θ



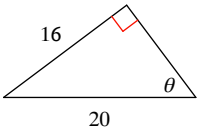
4) sec θ



5) cos θ



6) tan θ



7) Find cos θ if sin $\theta = \frac{\sqrt{17}}{17}$

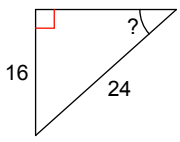
8) Find cos θ if csc $\theta = \frac{5}{3}$

9) Find sin θ if csc $\theta = 5\sqrt{2}$

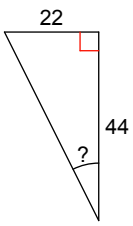
10) Find cos θ if sin $\theta = \frac{3}{5}$

Find the missing side or angle. Round to the nearest hundreth.

11)



12)



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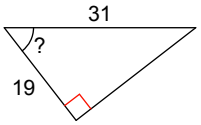

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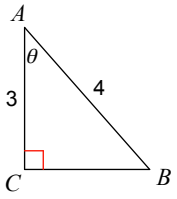

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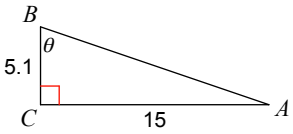

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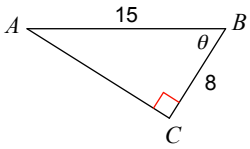
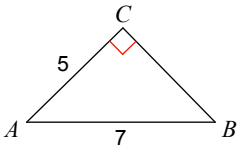


Solve each triangle. Round answers to the nearest hundreth.

17)

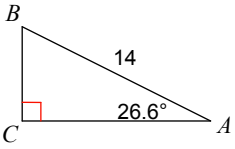


18) AB=_____ m∠*A*=_____

BC=_____ m∠*B*=_____

AC=_____ m∠*C*=_____

19)



20) AB=_____ m∠*A*=_____

BC=_____ m∠*B*=_____

AC=_____ m∠*C*=_____

Find the exact value of each trigonometric function.

21) tan 150°

22) tan 240°

23) cos 90°

24) sin 300°

25) sin 240°

26) tan 225°

27) sin 270°

28) cos 270°

29) tan 90°

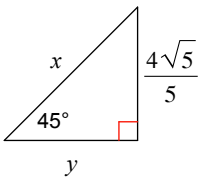
30) tan 330°

31) sin 135°

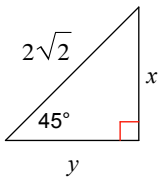
32) tan 45°

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

33)



34)



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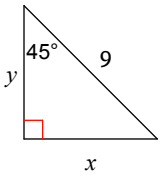
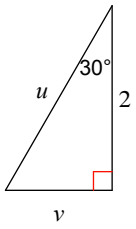
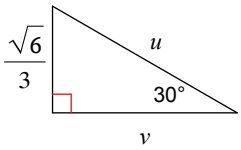


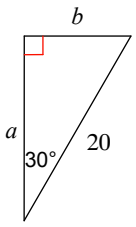
36)



37)



38)



39) 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 tenth of a foot, the height of the connection point on the tree.

40) 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 in height, how far is the partner from the base of the tower, to the nearest tenth of a foot?

41) Find the shadow cast by a 10 foot lamp post when the angle of elevation of the sun is 58º. Find the length to the nearest tenth of a foot.

42) 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. Find to the nearest degree, the angle the ladder makes with the wall.

List each of the identities.

43) Reciprocal identities

44) Tangent and cotangent

45) Pythagorean identities

Find the sine or cosine that is equivalent to each value.

46) sin(58°)

47) sin(10°)

48) $\cos(47°)$

49) $\cos(55°)$

Verify each expression.

50) $\dfrac{\sin^2 x + \cos^2 x}{\cos x} = \sec x$

51) $\dfrac{\sin^2 x}{1 - \cos^2 x} = 1$

52) $\dfrac{\tan^2 x}{1 - \sin^2 x} = \sin^2 x$

53) $(\sec x - 1)(\sec x + 1) = \tan^2 x$

54) $\cos x\,(\sec x - \cos x) = \sin^2 x$

55) $\dfrac{\sin^2 x + \cos^2 x}{\cos x} = \sec x$

56) Hint: Use factoring on the top.

$$\frac{\sin^3 x + \sin x \cos^2 x}{1 - \cos^2 x}$$