

REVIEW: Right Triangles with Trigonometry (Test Date: _____)

Spiraled Review: Radicals

Simplify and rationalize the denominator when necessary.

1. $\sqrt{68}$

2. $\sqrt{300}$

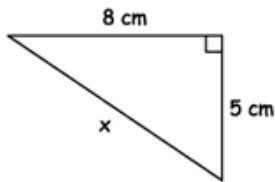
3. $\frac{2}{\sqrt{7}}$

4. $\frac{2\sqrt{3}}{\sqrt{15}}$

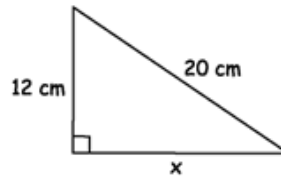
5. $\frac{14}{\sqrt{2}}$

Spiraled Review: Pythagorean theorem

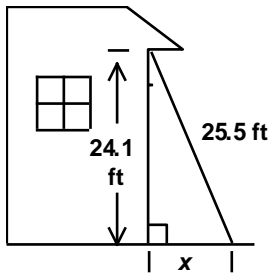
6. Find x.



7. Find x.



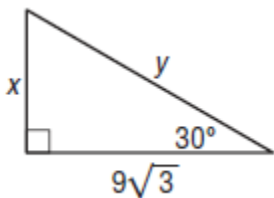
8. A 25.5 foot ladder rests against the side of a house at a point 24.1 feet above the ground. The foot of the ladder is x feet from the house. Find the value of x to one decimal place.



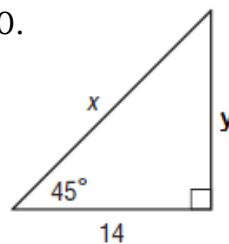
Spiraled Review: Special Right Triangles

Solve for x and y:

9.



10.



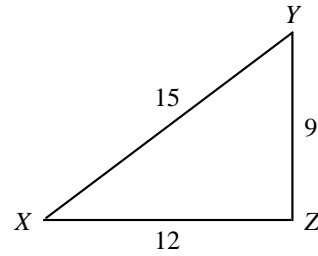
Write the *trigonometric ratio* as a fraction and as a decimal rounded to the nearest hundredths.

Fraction Decimal (hundredths)

11. $\sin \angle Y = \frac{\quad}{\quad} = \frac{\quad}{\quad}$

12. $\cos \angle Y = \frac{\quad}{\quad} = \frac{\quad}{\quad}$

13. $\tan \angle X = \frac{\quad}{\quad} = \frac{\quad}{\quad}$



Use a calculator or trigonometry table as needed.

14. $\sin 29^\circ = \frac{\quad}{\quad}$

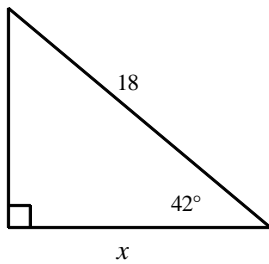
15. $\cos \frac{\quad}{\quad} = .6157$

16. $\tan \frac{\quad}{\quad} = 2.9042$

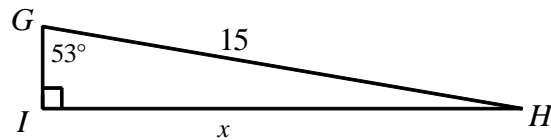
17. $\cos 27^\circ = \frac{\quad}{\quad}$

Round all sides to the nearest hundredth and angles to the nearest degree

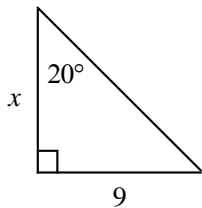
18. Find the value of x :



19. Find the value of x

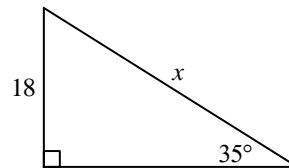


20. Find the value of x :



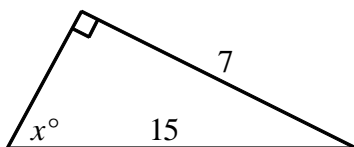
Not drawn to scale

21. Find the value of x .

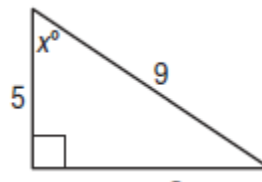


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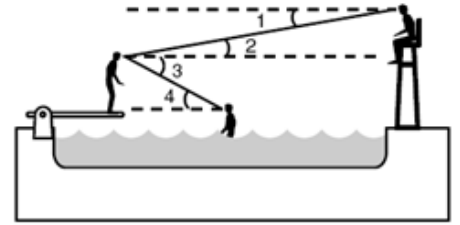
22. Find the measure of $\angle x$:



23. Find the measure of $\angle x$:



Ben is on the diving board at the neighborhood pool. Jenna is in the pool and a lifeguard sits at her station on the opposite end of the pool. Classify each angle as an angle of depression or an angle of elevation.



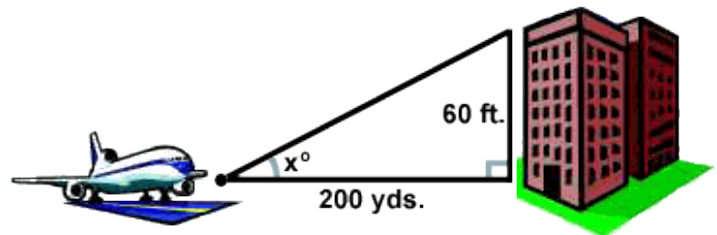
24. $\angle 1$: _____

25. $\angle 2$: _____

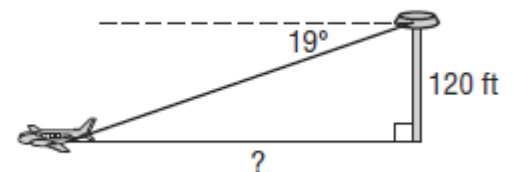
26. $\angle 3$: _____

27. $\angle 4$: _____

28. An airplane takes off 600 feet in front of a 60-foot building. At what angle of elevation must the plane take off in order to avoid the building? Assume that the airplane flies in a straight line and the angle of elevation remains constant until the airplane flies over the building. Round the angle to the nearest degree.

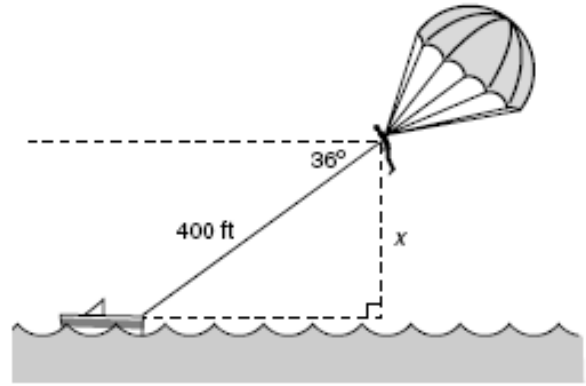


29. **AIR TRAFFIC** From the top of a 120-foot-high tower, an air traffic controller observes an airplane on the runway at an angle of depression of 19° . How far is the plane from the base of the tower? Round your answer to the nearest hundredths.

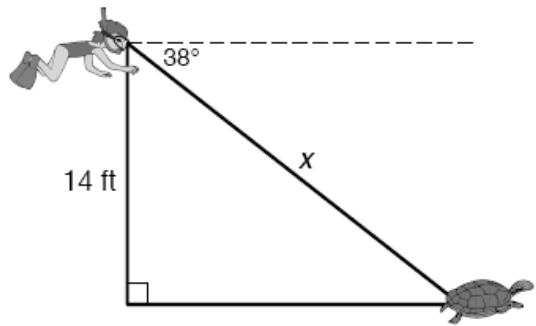


30. From the top of a vertical cliff 40 m high, the angle of depression of an object that is level with the base of the cliff is 34° . How far is the object from the base of the cliff?

31. The figure shows a person parasailing. What is x , the height of the parasail to the nearest hundredths of a foot



32. A person snorkeling sees a turtle on the ocean floor at an angle of depression of 38° . She is 14 feet above the ocean floor. How far is she from the turtle? Round to the nearest hundredths of a foot.



33. A 20-foot ladder leans against a building and makes an angle of 72° with the ground. Find the distance between the foot of the ladder and the building.

34. Michael, whose eyes are six feet off the ground, is standing 36 feet away from the base of a building, and he looks up at a 50° angle of elevation to a point on the edge of building's roof. To the nearest foot, how tall is the building?

