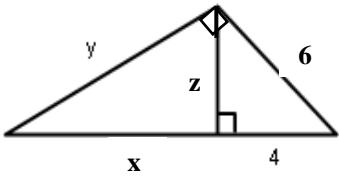


Geometry
Chapter 7 Test Review
Right Triangles and Trigonometry

Name _____

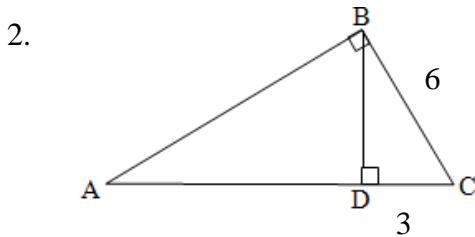
Period _____ Date _____

1. The diagram shows a right triangle with the altitude drawn to the hypotenuse. Find the values of x , y , and z (in simplest radical form).



$x =$ _____ $y =$ _____ $z =$ _____

For right triangle ABC and altitude \overline{BD} , find the value of AD.



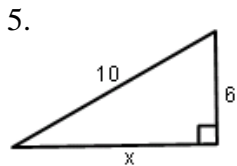
$AD =$ _____

Decide if the side lengths given can form a triangle. If a triangle cannot be formed, write **not possible**. If it can, then classify the triangle: **acute**, **right**, or **obtuse**.

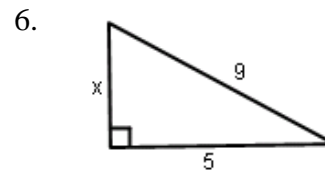
3. 1, 4, 9 _____

4. 5, 6, 10 _____

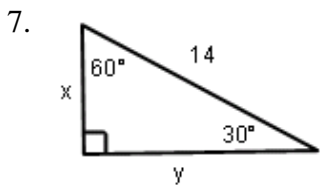
Find the value of the variable(s) Leave answers in simplest radical form.



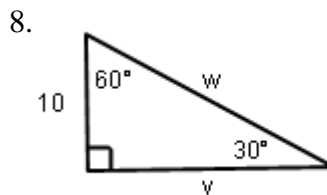
$x =$ _____



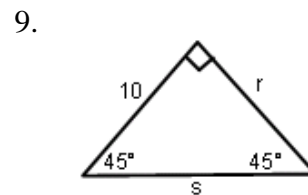
$x =$ _____



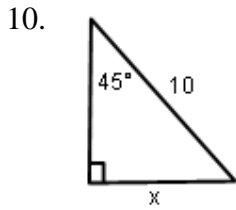
$x =$ _____ $y =$ _____



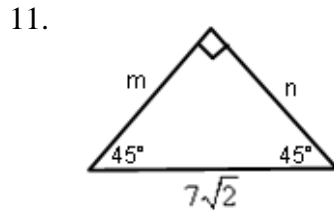
$v =$ _____ $w =$ _____



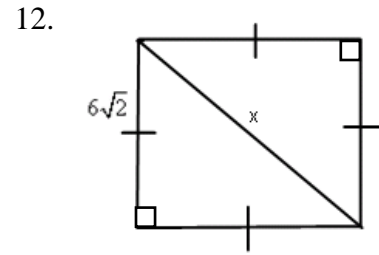
$r =$ _____ $s =$ _____



$x = \underline{\hspace{2cm}}$

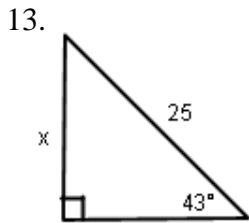


$m = \underline{\hspace{1cm}}$ $n = \underline{\hspace{1cm}}$

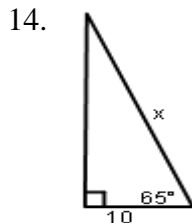


$x = \underline{\hspace{2cm}}$

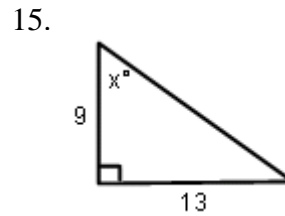
Solve for x to the nearest tenth.



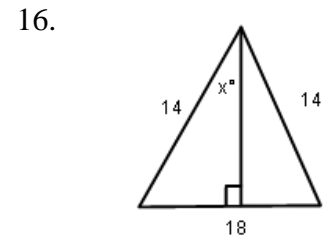
$x = \underline{\hspace{2cm}}$



$x = \underline{\hspace{2cm}}$



$x = \underline{\hspace{2cm}}$

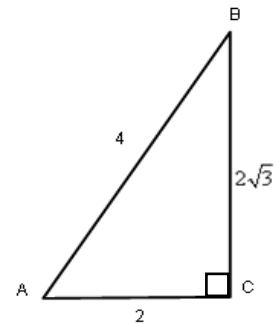


$x = \underline{\hspace{2cm}}$

Use the picture to express the following as fractions in the simplest form.

17. $\sin A = \underline{\hspace{2cm}}$ 18. $\cos A = \underline{\hspace{2cm}}$ 19. $\tan A = \underline{\hspace{2cm}}$

20. $\sin B = \underline{\hspace{2cm}}$ 21. $\cos B = \underline{\hspace{2cm}}$ 22. $\tan B = \underline{\hspace{2cm}}$

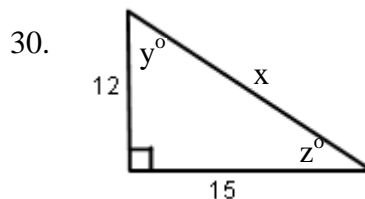
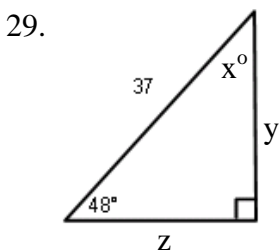


Use your calculator to find the following. Give ratios to 4 decimal places and angles to the nearest tenth.

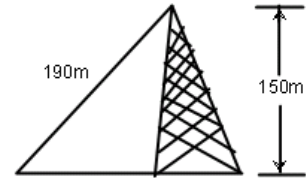
23. $\sin 70^\circ = \underline{\hspace{2cm}}$ 24. $\cos 32^\circ = \underline{\hspace{2cm}}$ 25. $\tan 14^\circ = \underline{\hspace{2cm}}$

26. $\sin A \approx 0.96$, $m\angle A \approx \underline{\hspace{1cm}}$ 27. $\cos A \approx 0.95$, $m\angle A \approx \underline{\hspace{1cm}}$ 28. $\tan A \approx 1.4$, $m\angle A \approx \underline{\hspace{1cm}}$

In #29-30, solve the right triangle. Round to the nearest tenth.



31. A support wire is attached to the top of a 150 meter radio tower. The wire is 190 meters long. Find the measure to the nearest tenth of the angle of elevation of the wire from the ground. _____

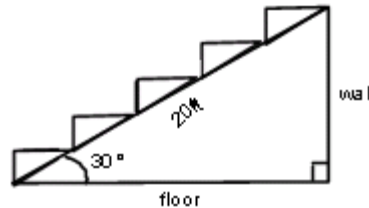


32. Mrs. Marsh is standing on a cliff at the edge of the ocean and she spots a raft. The cliff is 18m above sea level and the angle of depression is 7° .

- Make a sketch.
- To the nearest 10 m, find the distance from the raft to the base of the cliff. _____

33. A carpenter is building a flight of stairs as pictured in the drawing. What is the horizontal distance from the foot of the stairs to the wall?

- 14.1 ft
- 17.3 ft
- 20.0 ft
- 28.3 ft

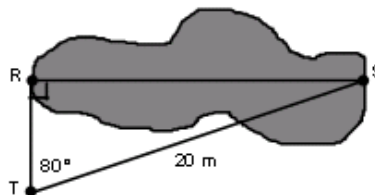


34. The top of a ladder is leaning on a building at a point 12 feet above the ground; the bottom of the ladder is 5 feet from the base of the building. What is the length of the ladder?

- 19 ft
- 17 ft
- 13 ft
- 7 ft

35. To determine the distance across a pond, Mr. Neuser made the measurements shown in the diagram. Which is *closest* to the distance from **R** to **S**?

- 3.48 m
- 19.7 m
- 20.3 m
- 113.4 m



Answer Key

- $5, 3\sqrt{5}, 2\sqrt{5}$
- 9
- Not possible
- obtuse
- 8
- $2\sqrt{14}$
- $7, 7\sqrt{3}$
- $10\sqrt{3}, 20$
- $10, 10\sqrt{2}$
- $5\sqrt{2}$
- 7, 7
- 12
- 17.0
- 23.7
- 55.3°
- 40.0°
- $\frac{\sqrt{3}}{2}$
- $\frac{1}{2}$
- $\sqrt{3}$
- $\frac{1}{2}$
- $\frac{\sqrt{3}}{2}$
- $\frac{\sqrt{3}}{3}$
- .9397
- .8480
- .2493
- 73.7°
- 18.2°
- 54.5°
- $x=42^\circ, y=27.5, z=24.8$
- $x=19.2, y=51.3^\circ, z=38.7^\circ$
- 52.1°
- 150m
- B
- C
- G

