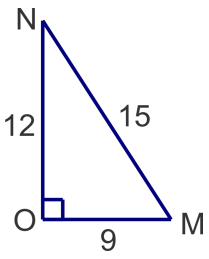
Practice Problems—Using Trig to Find Missing Side Lengths

Use you calculator to find the following trigonometric ratios. Give answers to four decimal places.

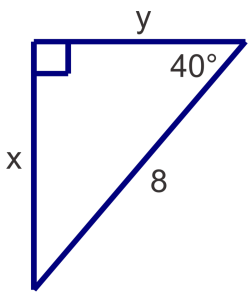
1. $\sin 35°$
2. $\tan 72°$
3. $\cos 48°$

4. Write the three trigonometric ratios of each of the acute angles in the triangle below.



Use trigonometric ratios to find the unknown side lengths in the triangles below. Round your answers to the nearest hundredth.

5.



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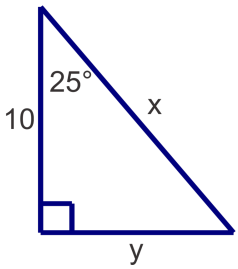

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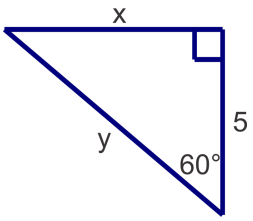
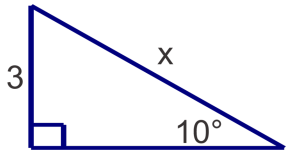


For problems 8-10 use the given information about ΔABC with right angle B to find the unknown side lengths. Round your answer to the nearest hundredth.

8. $a = 12$ and $m\angle A = 43°$

9. $m\angle C = 75°$ and $b = 24$
10. $c = 7$ and $m\angle A = 65°$

11. A ramp needs to have an angle of elevation no greater than 10 degrees. If the door is 3 ft above the sidewalk level, what is the minimum possible ramp length to the nearest tenth of a foot?



12. A ship, *Sea Dancer*, is 10 km due East of a lighthouse. A second ship, *Nelly*, is due north of the lighthouse. A spotter on the *Sea Dancer* measures the angle between the *Nelly* and the lighthouse to be $38°$. How far apart are the two ships to the nearest tenth of a kilometer?