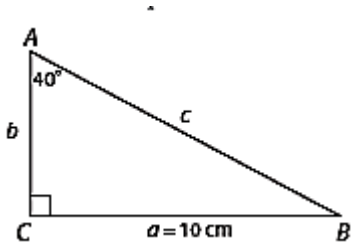
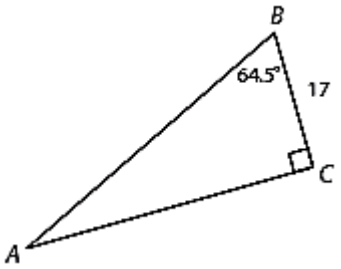
Name _____ Date _____

Day 4 – Trig Ratios: Missing Sides

We can use trig ratios to also create equations that allow us to find missing sides or angles. It is extremely IMPORTANT to label your triangle with the types of sides you have on the diagram (opp, adj, or hyp). By labeling your sides, you see which trig ratio you can use to solve the problem.

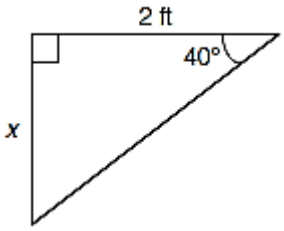
Example 1: Label each of the sides as opposite, adjacent, or hypotenuse. Then create a trig ratio equation that can be used to find both missing sides.





Example 2: Create a trig ratio equation that can be used to find the missing side. Then solve for x.

a.



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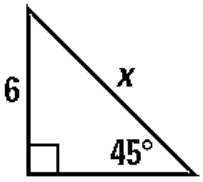
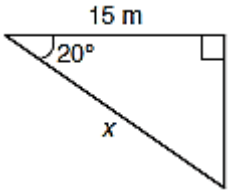
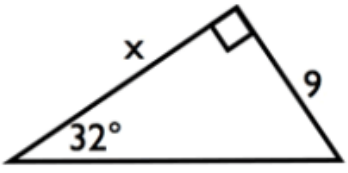


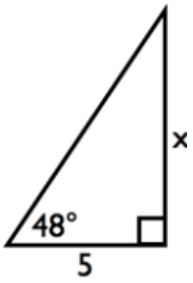
c.



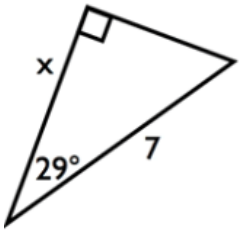
d.



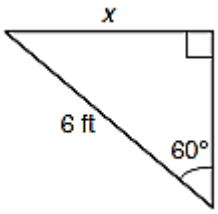
e.



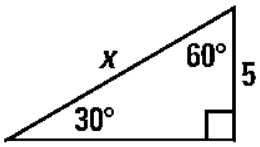
f.



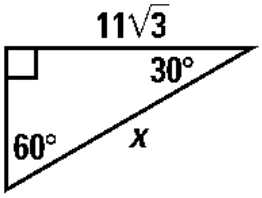
g.



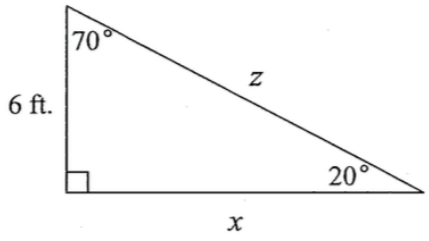
h.

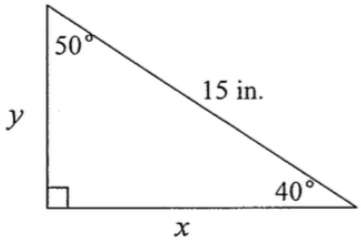


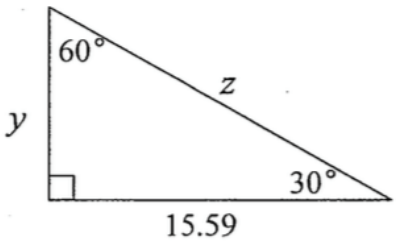
i.



Example 3: Create a trig ratio equation that can be used to find the missing sides. Then solve for the missing variables.







Example 4: Create a trig ratio equation that can be used to find the missing side. Then find the missing side. *Michael is building a concrete pathway 150 feet long across a rectangular courtyard, as shown below. What is the length of the courtyard, x, to the nearest thousandth?*