

Name:

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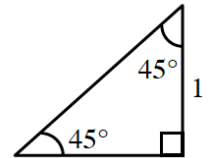
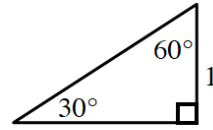
Lesson 9.1.2 to 9.1.3 Assignment

9-13.

Copy the triangles at right onto your paper. [Homework Help](#)



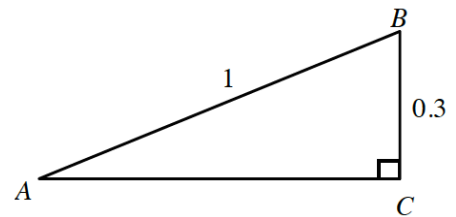
- a. Label the missing sides with their *exact* lengths. That is, leave your answers in radical form.



- b. A $30^\circ - 60^\circ - 90^\circ$ triangle is sometimes called a half-equilateral triangle. Draw a picture to illustrate this, and explain how that fact can be used to help label the missing sides in part (a).

9-14. What is the measure of angle A in the diagram below?

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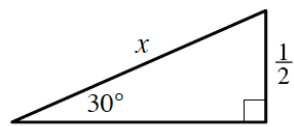
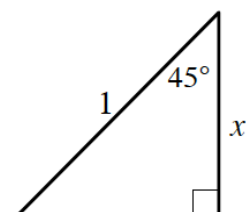


9-16. Divide $x^3 - 2x^2 + 25x - 50) \div (x - 2)$. [Homework Help](#) 

9-17. Use your answer from the previous problem to solve $x^3 - 2x^2 + 25x - 50 = 0$
[Homework Help](#) 

9-22. Sketch a graph of $y = -x^2(x - 2)^2(x + 2)^2$. [Homework Help](#) 

9-25. What is the length of the side labeled x ? Write your answers in exact form. [Homework Help](#) 

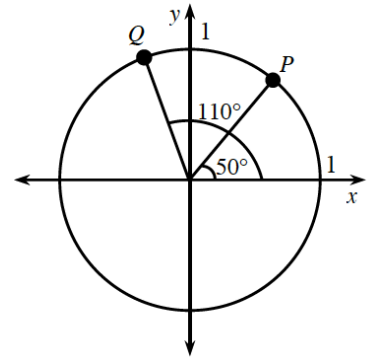
a.  A right triangle with a horizontal base, a vertical leg of length $\frac{1}{2}$, and a hypotenuse of length x. The angle between the base and the hypotenuse is 30°. A right angle symbol is at the vertex where the base and the vertical leg meet.	b.  A right triangle with a horizontal base, a vertical leg of length x, and a hypotenuse of length 1. The angle between the vertical leg and the hypotenuse is 45°. A right angle symbol is at the vertex where the base and the vertical leg meet.
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9-24. Solve each equation below. [Homework Help](#) 

a. $2^{(x-1)} = 64$	b. $9^3 = 27^{(2x-1)}$
c. $x^6 = 29$	d. $6^x = 29$

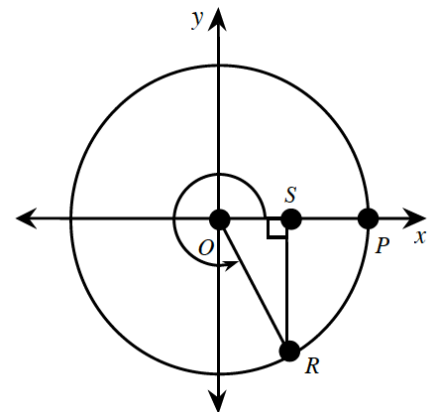
9-20. What is the domain of $y = \sin(\theta)$? Justify your reasoning. [Homework Help](#) 

9-45. What are the coordinates of points P and Q on the unit circle at right? [Homework Help](#) 



9-46. The measure of $\angle ROS$ in $\triangle ROS$ below is 60° . [Homework Help](#) 

- a. The curved arrow represents the rotation of OR^- , beginning from the positive x-axis. Through how many degrees has OR^- rotated?



- b. If $OR=1$, what are the *exact* length of OS and SR?

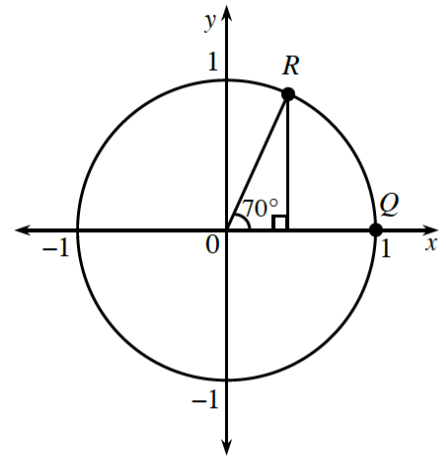
- c. What are the *exact* coordinates of point R?

9-47. Determine the exact coordinates of a point on the unit circle that has $\sin(\theta)=14$. [Homework Help](#) 

9-54. A 70° angle is drawn for you in the unit circle at right.

[Homework Help](#) 

- Approximate the coordinates of point R.
- How could you represent the *exact* coordinates of point R?
- Show that the Pythagorean Identity works for this angle.



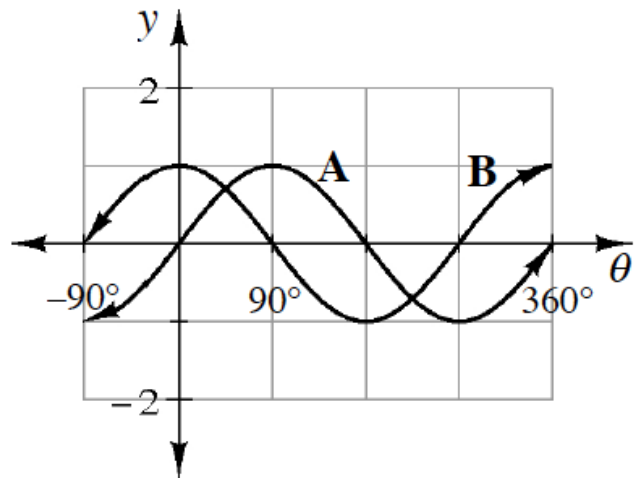
9-53. Sketch a unit circle. In your unit circle, sketch an angle that has: [9-53 HW eTool](#) (Desmos) [Homework Help](#) 

- A positive cosine and a negative sine.
- A sine of -1 .

- c. A negative cosine and a negative sine.
- d. A cosine of approximately -0.9 and a sine of approximately 0.4 .
- e. Can an angle have a sine of 0.9 and cosine of 0.8 ? Give an example or explain why not.

9-55. Daniel sketches the graphs at right for $y = \sin(\theta)$ and $y = \cos(\theta)$. [Homework Help](#) Unfortunately, he forgets to label the graphs, and now he cannot remember which graph goes with which equation. Explain to Daniel how he can tell (and remember!) which graph is

$y = \sin(\theta)$ and which is $y = \cos(\theta)$.



9-56. Consider the system of equations $y = \cos(x)$ and $y = -1$. [9-56 HW eTool](#) (Desmos)
[Homework Help](#) 

- a. Is it possible to solve this system by substitution? By the Elimination Method? By graphing?

- b. List at least five possible solutions.

- c. Consider the list of solutions you wrote in part (b) as a sequence and write an equation to represent *all* possible solutions.

9-57. What is the equation of the graph below? [9-57 HW eTool](#) (Desmos) [Homework Help](#) 

