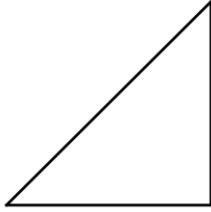


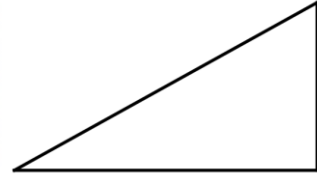
SM2H 8.4 Special Right Triangles

Label the two special right triangles with all the angles and sides.

1. $45^\circ - 45^\circ - 90^\circ$

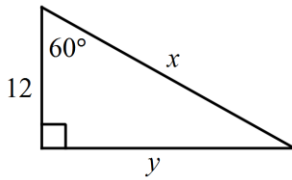


2. $30^\circ - 60^\circ - 90^\circ$



Use special right triangles to solve for x and y . Leave your answers as radicals in simplest form. NO DECIMAL ANSWERS ALLOWED!

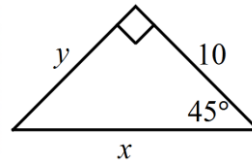
3.



$x =$

$y =$

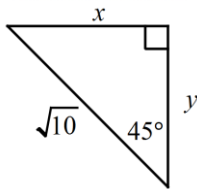
4.



$x =$

$y =$

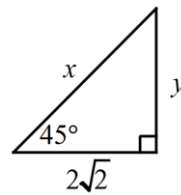
5.



$x =$

$y =$

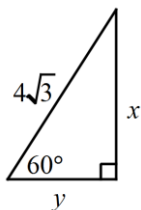
6.



$x =$

$y =$

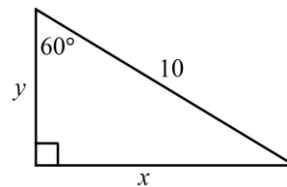
7.



$x =$

$y =$

8.



$x =$

$y =$

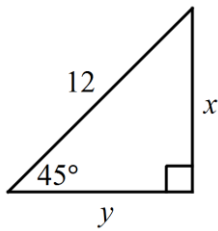
Use special right triangles to solve for x and y . Leave your answers as radicals in simplest form. NO DECIMAL ANSWERS ALLOWED!

9. $30^\circ - 60^\circ - 90^\circ$

10. $45^\circ - 45^\circ - 90^\circ$

Use special right triangles to solve for x and y . NO DECIMAL ANSWERS ALLOWED!

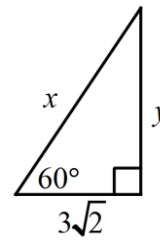
11.



$x =$

$y =$

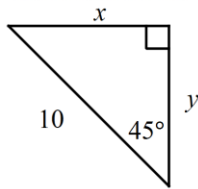
12.



$x =$

$y =$

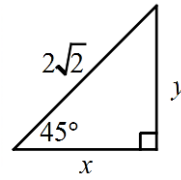
13.



$x =$

$y =$

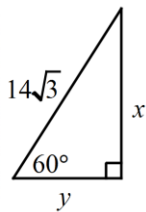
14.



$x =$

$y =$

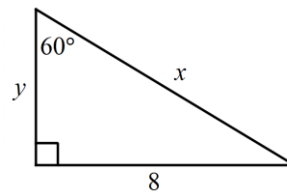
15.



$x =$

$y =$

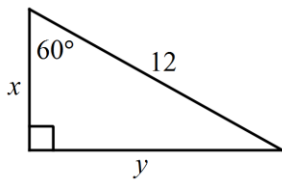
16.



$x =$

$y =$

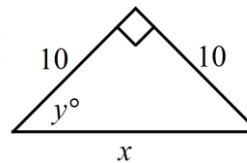
17.



$x =$

$y =$

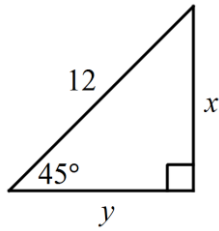
18.



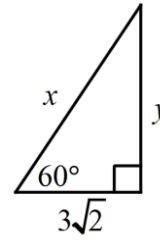
$x =$

$y =$

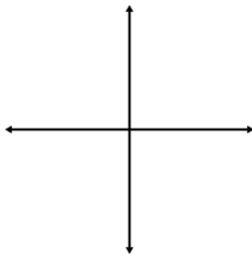
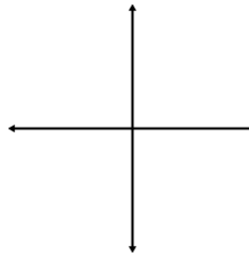
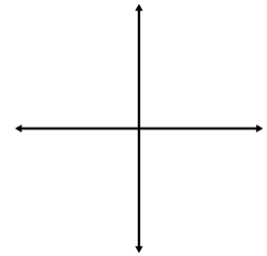
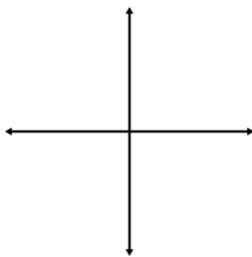
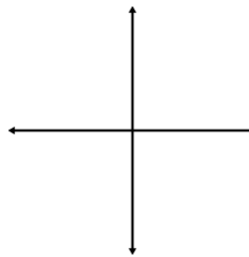
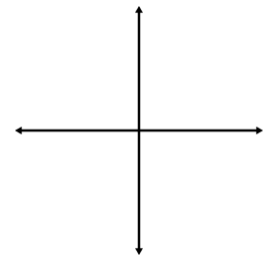
19.

 $x =$ $y =$

20.

 $x =$ $y =$

Find the measurement of the STANDARD ANGLE (you will need to first find the reference angle!) that is created by the coordinate point. Draw a picture. Use special right triangles to solve for the angle. NO DECIMAL ANSWERS ALLOWED!

21. $(1, \sqrt{3})$  $\theta =$ 22. $(3, -3)$  $\theta =$ 23. $(\sqrt{3}, 1)$  $\theta =$ 24. $(-4, -4)$  $\theta =$ 25. $(3, 3\sqrt{3})$  $\theta =$ 26. $(-2\sqrt{5}, 2\sqrt{5})$  $\theta =$

Use special right triangles to solve the following story problems. Don't forget to draw a picture! NO DECIMAL ANSWERS ALLOWED!

27. Math often shows up in sports in ways that we don't realize. Take for example the baseball diamond. It is actually a square with the bases set at 90° angles. If the bases are 90 feet apart, how far is it from home plate to second base?

28. Grain elevators are conveyor belts used throughout the Midwest to take produce, like wheat, to the top of a silo for storage. How long would the belt of a grain elevator need to be if the bottom is 50 feet from the base of a silo that is 50 feet high?

29. A homeowner wants to cut her flowerbed in half diagonally, then put a wooden border around it. Right now, the flowerbed is 6 feet by 6 feet and perfectly square.

a) Draw a picture of the flowerbed.

b) How long will the diagonal wooden border be (an EXACT answer, no decimals)?

c) How much total wooden border will she need to go around the new triangular flowerbed?