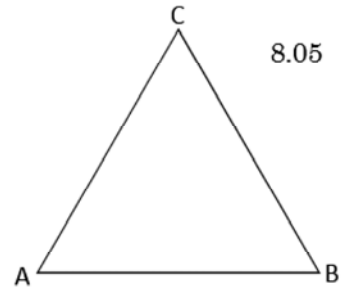


Special Triangles 5 – Another Special Triangle

1. Given an equilateral triangle ABC with sides 6 units, label the measures of all angles and sides. Draw the bisector of $\angle C$. Label the point where the bisector intersects \overline{AB} as point D.



$m\angle A = \underline{\hspace{2cm}}$ $m\angle ADC = \underline{\hspace{2cm}}$ $m\angle ACD = \underline{\hspace{2cm}}$

$AD = \underline{\hspace{2cm}}$ Now use the Pythagorean Theorem to find CD as a simplified radical.

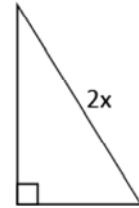
2. Repeat using a side of 4 units

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

3. Repeat using a side of $2x$ units

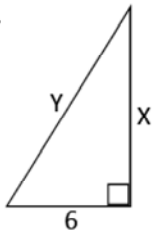
$CD = \underline{\hspace{2cm}}$

4. Using what you have learned above, label the other two sides of the isosceles right triangle at the right in terms of x .

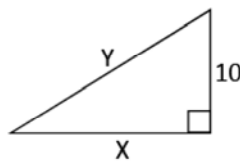


Now without using the Pythagorean Theorem, use relationships found above in order to find the missing sides in each 30-60-90 triangle:

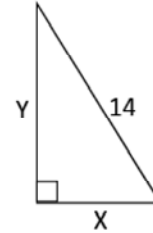
1.



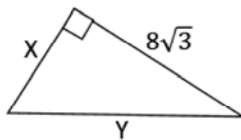
2.



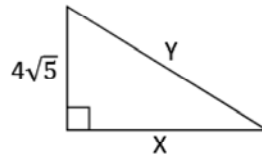
3.



4.



5.



6.

