## Special Right Triangles

1. In an isosceles right triangle ( $45-45-90^{\circ}$ ), the measure of the hypotenuse is equal to the product of the measure of one of the legs and $\sqrt{2}$.
2. In a $30-60-90^{\circ}$ right triangle, the side opposite the $60^{\circ}$ angle is $\sqrt{3}$ times the short leg and the hypotenuse is twice the shortest leg.


Use the figures on the right to answer the following questions.
Problems 1-5 the 30-60-90 $\Delta$ and 6-8, the 45-45-90 ${ }^{\circ} \Delta$.

1. If $c=4$, find $a$ and $b$.
2. If $a=2$, find $b$ and $c$.
3. If $b=9 \sqrt{3}$, find $a$ and $c$.

4. If $b=8$, find $a$ and $c$.
5. If $c=4 \sqrt{3}$, find $a$ and $b$.
6. If $a=4$, find $b$ and $c$.
7. If $c=7 \sqrt{2}$, find $a$ and $b$.
8. If $c=8$, find $a$ and $b$.

9. Find the distance from home plate to second base on a baseball diamond if a baseball diamond is square, 90 feet on each side.
10. The Special Triangle Theorems are shortcuts for what theorem?
