## **Special Right Triangles**

- 1. In an isosceles right triangle (45-45-90°), 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° right triangle, the side opposite the 60° 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°  $\Delta$ .

- 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?



