

Special Right Triangles

A right-angled triangle with a 90-degree angle at the bottom-left vertex. The two base angles are both 45 degrees. The vertical leg is labeled x , the horizontal leg is labeled x , and the hypotenuse is labeled $\sqrt{2}x$.

2. In a $30^\circ\text{--}60^\circ\text{--}90^\circ$ right triangle, the hypotenuse is twice as long as the short leg. The long leg is $\sqrt{3}$ times as long as the short leg.

A right triangle is shown with a right angle symbol at the top vertex. The two legs are labeled x and x . The hypotenuse at the bottom is labeled 8 . The angle at the bottom-right vertex is labeled 45° .

$$\begin{aligned}\sqrt{2}x &= 8 \\ x &= \frac{8}{\sqrt{2}} \\ &= \frac{8}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} \\ &= \frac{8\sqrt{2}}{2} \\ &= 4\sqrt{2}\end{aligned}$$

1. 

2. 

3. 

4. 

5. 

6. 

7. 

8. 

9. 

10. 

