Answer Key · Lesson 9.4: Special Right Triangles

School Launch · Geometry · Unit 9 · Worksheet A · for the parent

Key

1. $3\sqrt{3};\ 6$

A 30-60-90 triangle has a short leg of 3. Find the long leg and the hypotenuse.

2. $7\sqrt{3};\ 14$

A 30-60-90 triangle has a short leg of 7. Find the long leg and the hypotenuse.

3. $11\sqrt{2}$

A 45-45-90 triangle has legs of 11. Find the hypotenuse.

4. $\frac{11\sqrt{3}}{3};\ \frac{22\sqrt{3}}{3}$

1. short $= \frac{\text{long}}{\sqrt{3}}$; hypotenuse $= 2\cdot$ short.

A 30-60-90 triangle has a long leg of 11. Find the short leg and the hypotenuse (simplest radical form).

5. $\frac{3\sqrt{2}}{2}$

1. Ratio leg : leg : hyp $= 1 : 1 : \sqrt{2}$
2. leg $= \dfrac{3\sqrt{2}}{2}$, hyp $= 3$ (from the given hyp $= 3$)

A 45-45-90 triangle has hypotenuse 3. Find each leg in simplest radical form.

6. $4\sqrt{3};\ 8\sqrt{3}$

1. short $= \frac{\text{long}}{\sqrt{3}}$; hypotenuse $= 2\cdot$ short.

A 30-60-90 triangle has a long leg of 12. Find the short leg and the hypotenuse (simplest radical form).

7. $\sqrt{2}$

1. Ratio leg : leg : hyp $= 1 : 1 : \sqrt{2}$
2. leg $= \sqrt{2}$, hyp $= 2$ (from the given hyp $= 2$)

A 45-45-90 triangle has hypotenuse 2. Find each leg in simplest radical form.

8. $5\sqrt{2}$

1. Ratio leg : leg : hyp $= 1 : 1 : \sqrt{2}$
2. leg $= 5\sqrt{2}$, hyp $= 10$ (from the given hyp $= 10$)

A 45-45-90 triangle has hypotenuse 10. Find each leg in simplest radical form.

9. $\frac{2\sqrt{3}}{3};\ \frac{4\sqrt{3}}{3}$

1. short $= \frac{\text{long}}{\sqrt{3}}$; hypotenuse $= 2\cdot$ short.

A 30-60-90 triangle has a long leg of 2. Find the short leg and the hypotenuse (simplest radical form).

10. $\frac{5\sqrt{3}}{3};\ \frac{10\sqrt{3}}{3}$

1. short $= \frac{\text{long}}{\sqrt{3}}$; hypotenuse $= 2\cdot$ short.

A 30-60-90 triangle has a long leg of 5. Find the short leg and the hypotenuse (simplest radical form).