

Special Triangles - 30-60-90 & 45-45-90 Practice Worksheet

Name: _____ Date: _____

Instructions: Find the missing side(s) of each special right triangle. Leave answers in simplest radical form where needed.

1. 45-45-90 triangle. One leg = 5. Find the hypotenuse.
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2. 30-60-90 triangle. Short leg = 4. Find the long leg and the hypotenuse.
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3. 45-45-90 triangle. Hypotenuse = 10. Find each leg.
.....
4. 30-60-90 triangle. Hypotenuse = 14. Find both legs.
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5. 45-45-90 triangle. One leg = $3\sqrt{2}$. Find the hypotenuse.
.....
6. 30-60-90 triangle. Long leg = $9\sqrt{3}$. Find the short leg and hypotenuse.
.....
7. 45-45-90 triangle. Hypotenuse = $8\sqrt{2}$. Find each leg.
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8. 30-60-90 triangle. Short leg = 7. Find the area of the triangle.
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9. A square has diagonal = 12. Using the 45-45-90 rule, find the side length of the square.
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10. An equilateral triangle has side = 10. Drop an altitude to split it into two 30-60-90 triangles. Find the altitude.
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Answer Key

1. $5\sqrt{2}$
2. Long leg = $4\sqrt{3}$, Hypotenuse = 8
3. Each leg = $5\sqrt{2}$
4. Short leg = 7, Long leg = $7\sqrt{3}$
5. 6
6. Short leg = 9, Hypotenuse = 18
7. Each leg = 8
8. Area = $(1/2) \cdot 7 \cdot 7\sqrt{3} = 49\sqrt{3}/2$
9. Side = $6\sqrt{2}$
10. Altitude = $5\sqrt{3}$

