

**45°-45°-90° Triangles**

hypotenuse =  $x\sqrt{2}$   
leg =  $x$

Draw a quick sketch for each problem. Label all sides of the triangle.

- leg = 6
- leg = 12
- leg =  $x\sqrt{2}$
- hyp = 4
- hyp =  $2\sqrt{2}$
- hyp =  $5\sqrt{6}$
- leg =  $8\sqrt{10}$
- hyp =  $2\sqrt{24}$
- leg =  $2\sqrt{8}$

Handwritten solutions for 45-45-90 triangles:

- Problem 1: leg = 6, hyp =  $6\sqrt{2}$
- Problem 2: leg = 12, hyp =  $12\sqrt{2}$
- Problem 3: leg =  $x\sqrt{2}$ , hyp =  $x\sqrt{2} \cdot \sqrt{2} = 2x$
- Problem 4: hyp = 4, leg =  $2\sqrt{2}$
- Problem 5: hyp =  $2\sqrt{2}$ , leg = 2
- Problem 6: hyp =  $5\sqrt{6}$ , leg =  $5\sqrt{3}$
- Problem 7: leg =  $8\sqrt{10}$ , hyp =  $8\sqrt{10} \cdot \sqrt{2} = 8\sqrt{20} = 16\sqrt{5}$
- Problem 8: hyp =  $2\sqrt{24} = 4\sqrt{6}$ , leg =  $2\sqrt{12} = 2 \cdot 2\sqrt{3} = 4\sqrt{3}$
- Problem 9: leg =  $2\sqrt{8} = 4\sqrt{2}$ , hyp =  $4\sqrt{2} \cdot \sqrt{2} = 8$

Mar 22-8:20 AM

**30°-60°-90° Triangles**

hypotenuse =  $2x$   
long leg =  $x\sqrt{3}$   
short leg =  $x$

Draw a quick sketch for each problem. Label all sides of the triangle.

- short leg = 3
- hyp = 10
- long leg =  $7\sqrt{3}$
- short leg = 12
- hyp = 5
- short leg =  $8\sqrt{2}$
- long leg =  $2\sqrt{6}$
- short leg =  $\frac{4\sqrt{18}}{3}$
- long leg =  $5\sqrt{20}$

Handwritten solutions for 30-60-90 triangles:

- Problem 1: short leg = 3, long leg =  $3\sqrt{3}$ , hyp = 6
- Problem 2: hyp = 10, short leg = 5, long leg =  $5\sqrt{3}$
- Problem 3: long leg =  $7\sqrt{3}$ , short leg = 7, hyp = 14
- Problem 4: short leg = 12, long leg =  $12\sqrt{3}$ , hyp =  $24$
- Problem 5: hyp = 5, short leg =  $\frac{5}{2}$ , long leg =  $\frac{5\sqrt{3}}{2}$
- Problem 6: short leg =  $8\sqrt{2}$ , long leg =  $8\sqrt{2} \cdot \sqrt{3} = 8\sqrt{6}$ , hyp =  $16\sqrt{2}$
- Problem 7: long leg =  $2\sqrt{6}$ , short leg =  $\frac{2\sqrt{6}}{\sqrt{3}} = 2\sqrt{2}$ , hyp =  $4\sqrt{2}$
- Problem 8: short leg =  $\frac{4\sqrt{18}}{3} = \frac{4 \cdot 3\sqrt{2}}{3} = 4\sqrt{2}$ , long leg =  $4\sqrt{2} \cdot \sqrt{3} = 4\sqrt{6}$ , hyp =  $8\sqrt{2}$
- Problem 9: long leg =  $5\sqrt{20} = 10\sqrt{5}$ , short leg =  $\frac{10\sqrt{5}}{\sqrt{3}} = \frac{10\sqrt{15}}{3}$ , hyp =  $\frac{20\sqrt{5}}{3}$

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Assignment: Special Right Triangle Worksheet

Apr 21-10:37 AM