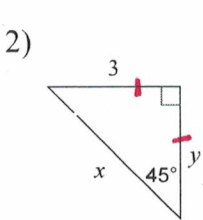


HW #4 Examples - Special Triangles

Simplify.

$$\begin{aligned}
 1) \frac{3\sqrt{20}}{4\sqrt{16}} &= \frac{3\sqrt{4 \cdot 5}}{4 \cdot 4} = \frac{3 \cdot 2\sqrt{5}}{16} \\
 &= \frac{6\sqrt{5}}{16} \\
 &= \frac{3\sqrt{5}}{8}
 \end{aligned}$$

Find the missing side lengths. Leave your answers as radicals in simplest form.

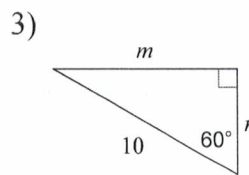


Leg = Leg

$$y = 3$$

$$x = 3\sqrt{2}$$

$$x = 3\sqrt{2}$$



HYP = 2 · SL

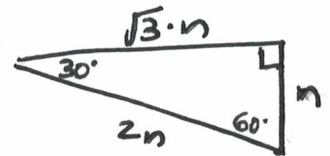
$$10 = 2n$$

$$n = 5$$

$$LL = \sqrt{3} \cdot SL$$

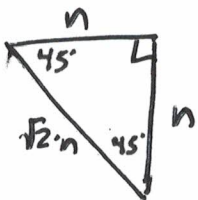
$$m = \sqrt{3} \cdot n$$

$$m = 5\sqrt{3}$$

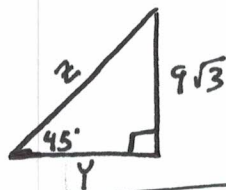
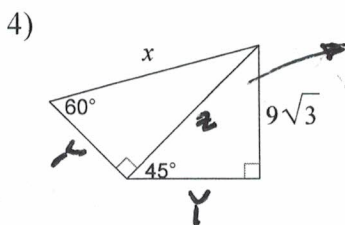


$$LL = \sqrt{3} \cdot SL$$

$$HYP = 2 \cdot SL$$



hypotenuse = $\sqrt{2} \cdot \text{Leg}$



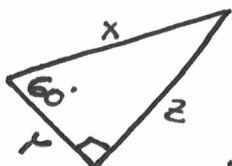
hypotenuse = $\sqrt{3} \cdot \text{Leg}$

$$z = \sqrt{3} \cdot 9\sqrt{3}$$

$$z = 9\sqrt{9}$$

$$z = 9 \cdot 3$$

$$z = 27$$



hyp = 2 · SL

LL = $\sqrt{3} \cdot SL$

$$y = \frac{27}{\sqrt{3}} \cdot \frac{\sqrt{3}}{3}$$

$$y = \frac{27\sqrt{3}}{3}$$

$$y = 9\sqrt{3}$$

hyp = 2 · SL

$$x = 2 \cdot y$$

$$x = 2 \cdot 9\sqrt{3}$$

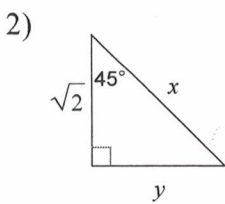
$$x = 18\sqrt{3}$$

HW #4 Examples - Special Triangles

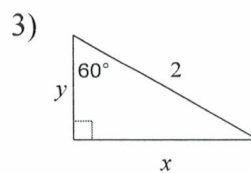
Simplify.

$$\begin{aligned}
 1) \frac{4\sqrt{12}}{4\sqrt{16}} &= \frac{4\sqrt{4} \cdot \sqrt{3}}{4 \cdot 4} = \frac{4 \cdot 2 \sqrt{3}}{16} \\
 &= \frac{\cancel{8} \sqrt{3}}{\cancel{16}^2} \\
 &= \frac{\sqrt{3}}{2}
 \end{aligned}$$

Find the missing side lengths. Leave your answers as radicals in simplest form.



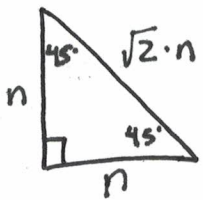
Leg = Leg
 $y = \sqrt{2}$
 hyp = $\sqrt{2} \cdot \text{Leg}$
 hyp = $\sqrt{2} \cdot \sqrt{2}$
 hyp = $\sqrt{4}$
 $\text{hyp} = 2$



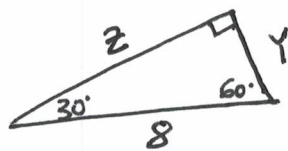
hypotenuse = 2 · short leg
 Long leg = $\sqrt{3}$ · short leg

hyp = 2 · SL
 2 = 2 · y
 $y = 1$

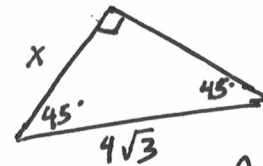
LL = $\sqrt{3}$ · SL
 x = $\sqrt{3}$ · y
 x = $\sqrt{3} \cdot 1$
 $x = \sqrt{3}$



hypotenuse = $\sqrt{2} \cdot \text{Leg}$



hyp = 2 · SL LL = $\sqrt{3}$ · SL
 8 = 2 · y z = $\sqrt{3}$ · y
 $y = 4$ z = $\sqrt{3}$ · 4
 $z = 4\sqrt{3}$



hyp = $\sqrt{2} \cdot \text{Leg}$
 $4\sqrt{3} = \sqrt{2} \cdot x$
 $\frac{\sqrt{2} \cdot x}{\sqrt{2}} = \frac{4\sqrt{3}}{\sqrt{2}}$
 $x = \frac{4\sqrt{3}}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$
 $= \frac{4\sqrt{6}}{2}$

$x = 2\sqrt{6}$

