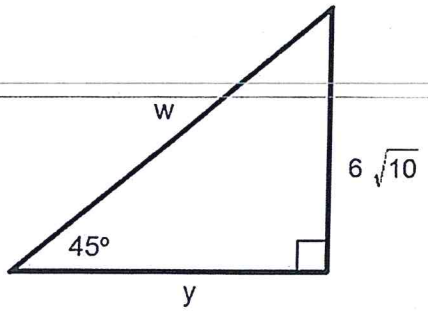
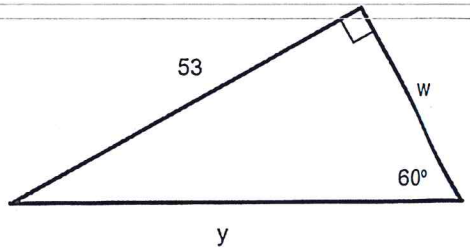
Bellwork Alg 2B Wednesday, January 31, 2018

Find the EXACT value of w and y. Simplify answers and make sure denominators are rationalized.

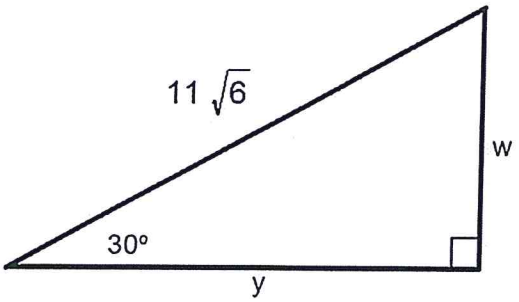
1.



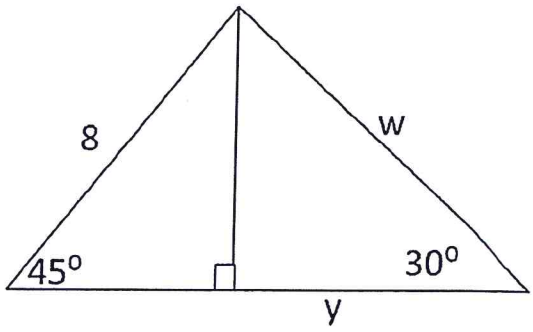
2.



3.



4.



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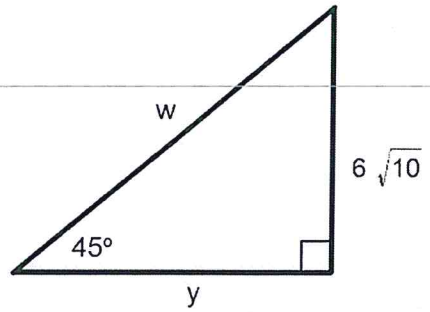
Answers

Find the EXACT value of w and y. Simplify answers and make sure denominators are rationalized.

1.



$y = 6\sqrt{10}$ legs are =

Hypot = Leg · $\sqrt{2}$

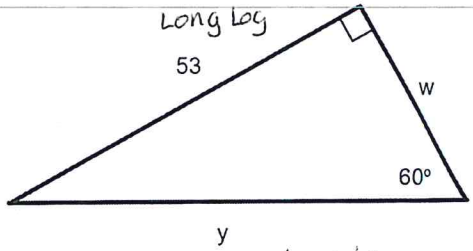
$w = 6\sqrt{10} \cdot \sqrt{2} = 6\sqrt{20}$

$= 6\sqrt{4 \cdot 5}$

$= 6 \cdot 2\sqrt{5}$

$w = 12\sqrt{5}$

2.



short leg = $\frac{\text{Long Leg}}{\sqrt{3}}$

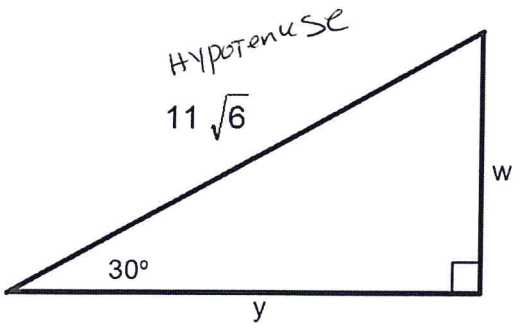
$w = \frac{53}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$ $w = \frac{53\sqrt{3}}{3}$

hypotenuse = short leg · 2

$= \frac{53\sqrt{3}}{3} \cdot 2$

Long Leg $y = \frac{106\sqrt{3}}{3}$

3.



short leg = $\frac{1}{2}$ hypotenuse

$w = \frac{1}{2}(11\sqrt{6})$

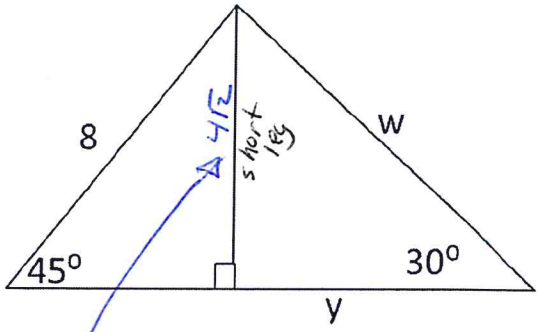
$w = \frac{11\sqrt{6}}{2}$

Long Leg = short leg · $\sqrt{3}$

$y = \frac{11\sqrt{6}}{2} \cdot \sqrt{3} = \frac{11\sqrt{18}}{2} = \frac{11\sqrt{9 \cdot 2}}{2} = \frac{11 \cdot 3\sqrt{2}}{2}$

$y = \frac{33\sqrt{2}}{2}$

4.



Leg = $\frac{\text{hyp}}{\sqrt{2}}$

$= \frac{8}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$

$= \frac{8\sqrt{2}}{2}$

$= 4\sqrt{2}$

hypotenuse = short leg · 2

$w = 4\sqrt{2} \cdot 2$

$w = 8\sqrt{2}$

Long Leg = short leg · $\sqrt{3}$

$y = 4\sqrt{2} \cdot \sqrt{3}$

$y = 4\sqrt{6}$