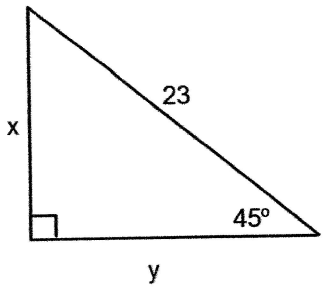
Bellwork Alg 2 Tuesday, April 21, 2020

1. Find the EXACT value of x and y in each triangle using the relationships in the Special Right Triangles. Rationalize denominators and simplify fractions.

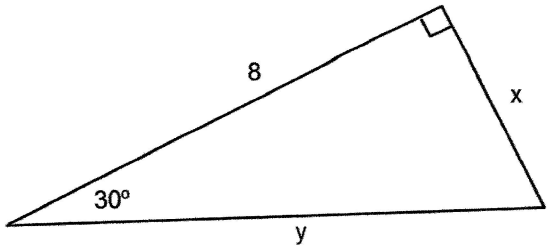
a)



$x =$

$y =$

b)



$x =$

$y =$

2. $\angle R$ is the right angle in $\triangle PQR$. Given $\tan P = \frac{15}{112}$ find the following ratios:

a) $\sin P$

b) $\cos P$

Bellwork Alg 2 Tuesday, April 21, 2020 ANSWERS

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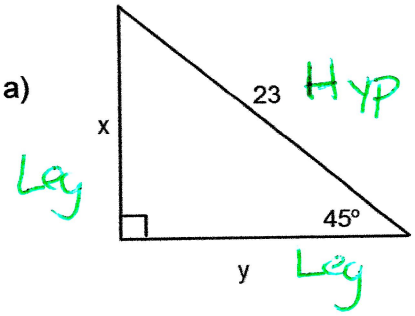
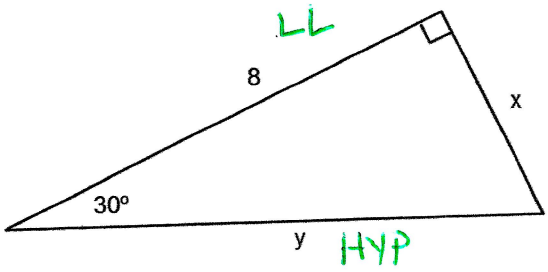
a)



$x = \frac{hyp}{\sqrt{2}} = \frac{23}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{23\sqrt{2}}{2}$

$y =$ $x = y = \frac{23\sqrt{2}}{2}$

b)



$x = SL = \frac{LL}{\sqrt{3}} = \frac{8}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{8\sqrt{3}}{3}$

$y = hyp = SL \cdot 2 = \frac{8\sqrt{3}}{3} \cdot 2 = \frac{16\sqrt{3}}{3}$

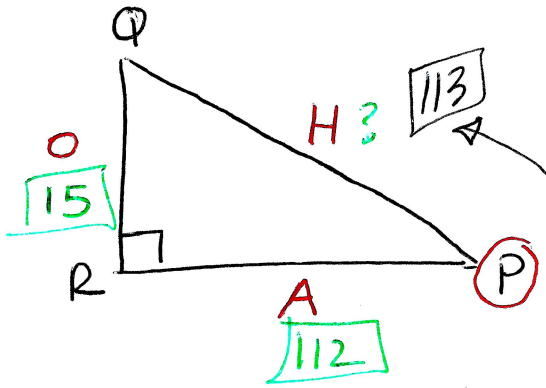
2. $\angle R$ is the right angle in $\triangle PQR$. Given $\tan P = \frac{15}{112}$ find the following ratios:

a) $\sin P = \frac{15}{113}$

b) $\cos P = \frac{112}{113}$

SOHCAHTOA

$\tan P = \frac{15}{112}$ ← opp leg / ← adjacent leg



use pythagorean Thm to find hypotenuse

$H^2 = 15^2 + 112^2$

$H = \sqrt{15^2 + 112^2} = 113$