Bellwork Alg 2 4th hr Thursday, May 16, 2019

Round answers to the nearest hundredth.

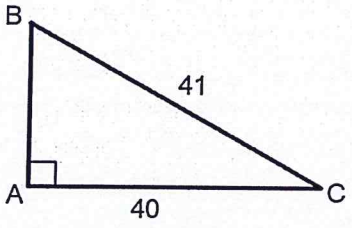
1. In $\triangle ABC$ find the value of a if $\angle C = 90°$, $\angle B = 38°$, and $c = 132$

2. In $\triangle PQR$ find the value of r if $\angle Q = 90°$, $\angle R = 65°$, and $p = 18$

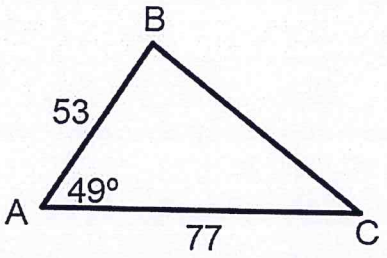
3. In $\triangle EFG$ find the value of $\angle E$ if $\angle G = 90°$, $e = 43$, and $g = 71$

4. Find the area of each triangle. $A = \frac{1}{2}bh$

a)



b)



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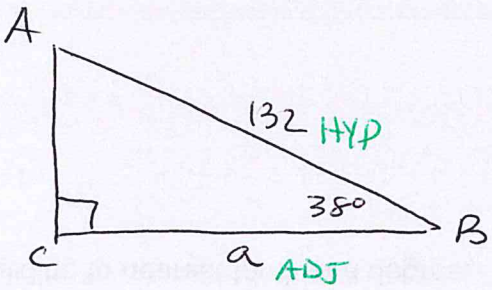
ANSWERS

Round answers to the nearest hundredth.

1. In $\triangle ABC$ find the value of a if $\angle C = 90°$, $\angle B = 38°$, and $c = 132$

SOHCAHTOA

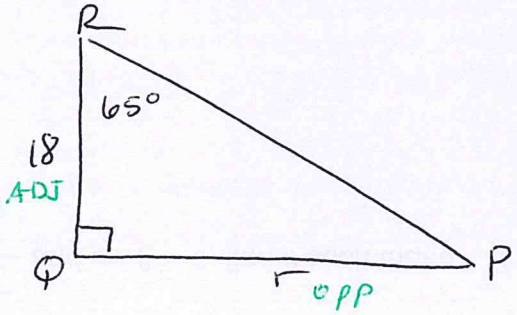


$\cos 38° = \frac{a}{132}$

$a = 104.02$

2. In $\triangle PQR$ find the value of r if $\angle Q = 90°$, $\angle R = 65°$, and $p = 18$

SOHCAHTOA

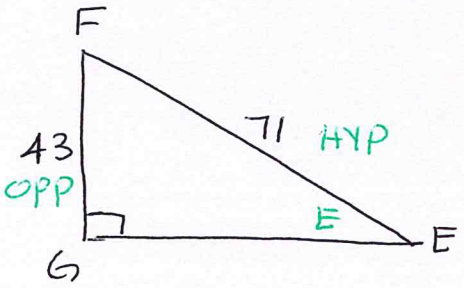


$\tan 65° = \frac{r}{18}$

$r = 38.60$

3. In $\triangle EFG$ find the value of $\angle E$ if $\angle G = 90°$, $e = 43$, and $g = 71$

SOHCAHTOA



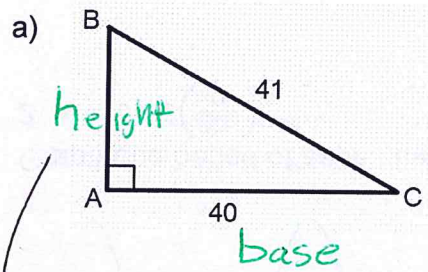
$\sin E = \frac{43}{71}$

$\angle E = \sin^{-1}\left(\frac{43}{71}\right)$

$\angle E = 37.27°$

4. Find the area of each triangle. $A = \frac{1}{2}bh$

a)



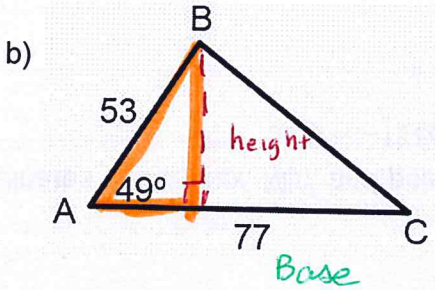
$41^2 = 40^2 + h^2$

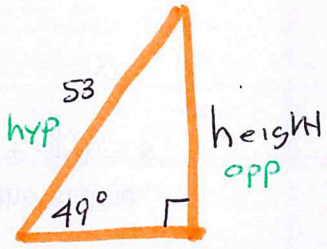
$h^2 = 41^2 - 40^2$

$h = \sqrt{41^2 - 40^2} = 9$

$A = \frac{1}{2}(40)(9) = 180$

b)





SOHCAHTOA

$\sin 49° = \frac{h}{53}$

$\text{height} = 40.00$

$A = \frac{1}{2}(77)(40.00)$

$= 1540.00$