Bellwork Alg 2 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 $\triangle XYZ$ if $\angle Z = 29°$, $y = 67$, and $x = 93$

5. Find the area of $\triangle HIJ$ if $\angle I = 123°$, $j = 15$, and $h = 19$

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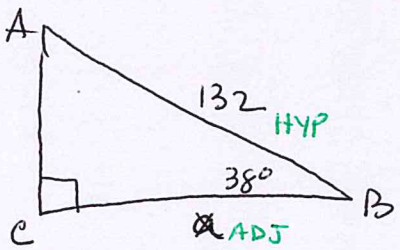
ANSWERS

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

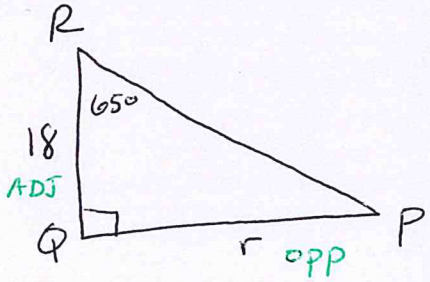


$\cos 38° = \frac{a}{132}$

$a = 104.02$

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

SOHCAHTOA

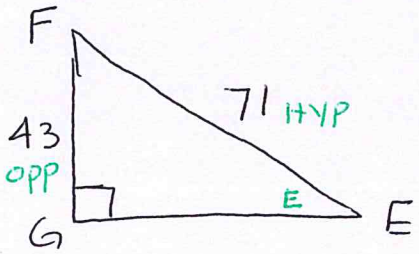


$\tan 65° = \frac{r}{18}$

$r = 38.60$

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

SOH CAH TOA



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

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

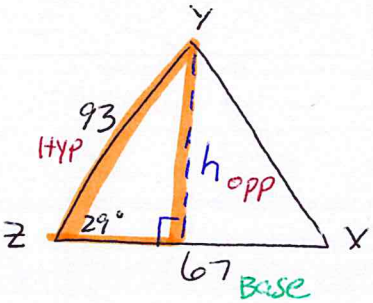
$\angle E = 37.27°$

4. Find the area of $\triangle XYZ$ if $\angle Z = 29°$, $y = 67$, and $x = 93$

SOHCAHTOA

$\sin 29° = \frac{h}{93}$

$h = 45.09$



$A = \frac{1}{2}bh$

$= \frac{1}{2}(67)(45.09)$

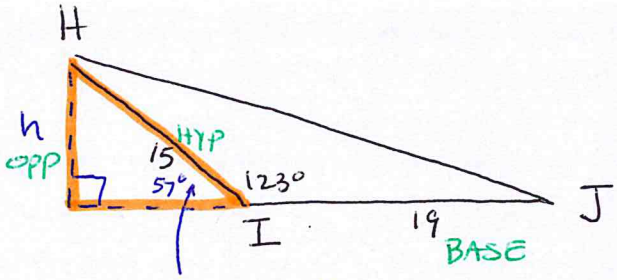
$A = 1510.52$

5. Find the area of $\triangle HIJ$ if $\angle I = 123°$, $j = 15$, and $h = 19$

SOHCAHTOA

$\sin 57° = \frac{h}{15}$

$h = 12.58$



$180 - 123 = 57$

$A = \frac{1}{2}bh$

$= \frac{1}{2}(19)(12.58)$

$A = 119.51$