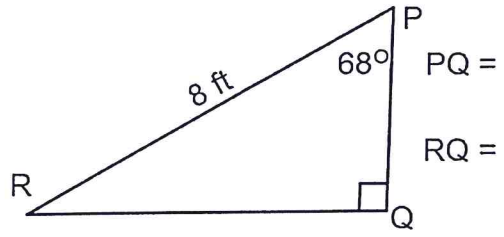
Algebra 2 Bellwork Monday, May 2, 2016

1. In Right $\triangle ABC$, $\angle B$ is the right angle. Given SinA = $\frac{5}{13}$. Find the following as ratios:

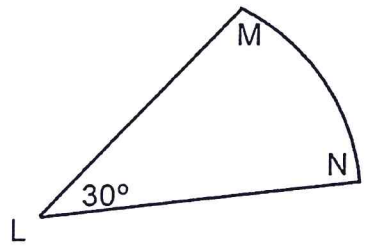
a. CosA

b. TanC

2. Find the lengths of the two legs to the nearest hundredth.



3. $\overset{\frown}{MN}$ is an arc of a circle with center L. The length of $\overset{\frown}{MN}$ is 6π. Find the area of sector LMN.



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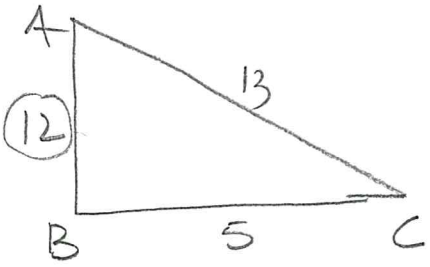
Answers

1. In Right $\triangle ABC$, $\angle B$ is the right angle. Given SinA = $\frac{5}{13}$. Find the following as ratios:

a. CosA = $\frac{12}{13}$

b. TanC = $\frac{12}{5}$

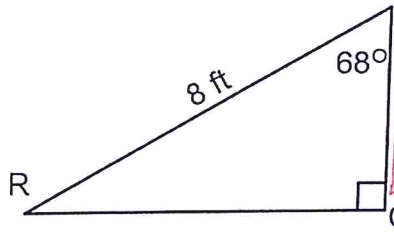


$13^2 = x^2 + 5^2$

$169 = x^2 + 25$

$144 = x^2 \rightarrow x = 12$

2. Find the lengths of the two legs to the nearest hundredth.



PQ = 3.00

RQ = 7.42

PQ use Cos

$\cos 68 = \frac{PQ}{8}$

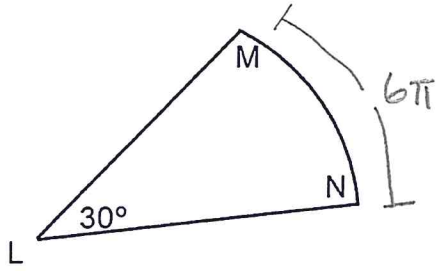
$PQ = 8 \cdot \cos 68 = 3.00$

RQ use Sin

$\sin 68° = \frac{RQ}{8}$

$RQ = 8 \cdot \sin 68 = 7.42$

3. $\overset{\frown}{MN}$ is an arc of a circle with center L. The length of $\overset{\frown}{MN}$ is 6π. Find the area of sector LMN.



Length $\overset{\frown}{MN}$: $\frac{6\pi}{\text{circumference}} = \frac{30°}{360°}$

circumference $= 72\pi$

circumference $= 2\pi r$

$\frac{72\pi}{2\pi} = \frac{2\pi r}{2\pi}$

$r = 36$

Area of circle

$\pi r^2 = \pi (36)^2$

$= 1296\pi$

Area of Sector

$\frac{x}{1296\pi} = \frac{30}{360}$

108π