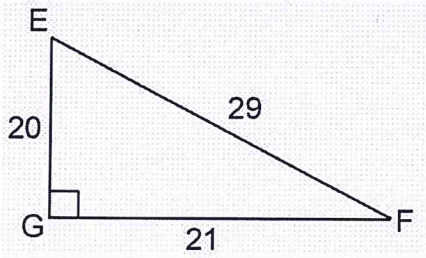
Practice #6 Reciprocal Trig Functions Monday, March 23, 2020

1. In $\triangle ABC$ C is the right angle and $\cos B = \frac{8}{17}$. Find each of the following as a ratio:

$\sin B =$ $\tan B =$

$\sin A =$ $\cos A =$ $\tan A =$

2.Use the given triangle to find each as a ratio:



$\tan F =$ $\csc E =$ $\cot E =$

$\cos F =$ $\sin F =$ $\sec F =$

3. Use your calculator to find each to the nearest hundredth.

a) $\csc 89° =$ b) $\cot 9° =$ c) $\sec 22° =$

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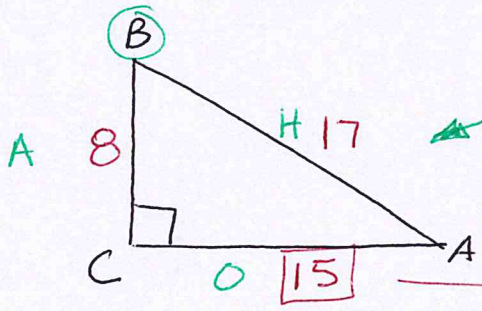
ANSWERS

1. In $\triangle ABC$ C is the right angle and $\cos B = \frac{8}{17}$. Find each of the following as a ratio:



$\cos B = \frac{8}{17}$ → adj leg / hypot

$17^2 = x^2 + 8^2$

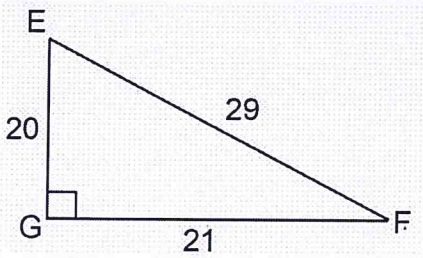
$x^2 = 17^2 - 8^2$

$x = \sqrt{17^2 - 8^2} = 15$

$\sin B = \frac{15}{17}$ $\quad \tan B = \frac{15}{8}$

$\sin A = \frac{8}{17}$ $\quad \cos A = \frac{15}{17}$ $\quad \tan A = \frac{8}{15}$

2. Use the given triangle to find each as a ratio:



$\tan F = \frac{20}{21}$ $\quad \csc E = \frac{29}{21}$ $\quad \cot E = \frac{20}{21}$

$\csc = \frac{1}{\sin}$ $\quad \sin E = \frac{21}{29}$

$\cot = \frac{1}{\tan}$ $\quad \tan E = \frac{21}{20}$

$\cos F = \frac{21}{29}$ $\quad \sin F = \frac{20}{29}$ $\quad \sec F = \frac{29}{21}$

$\sec = \frac{1}{\cos}$ $\quad \cos F = \frac{21}{29}$

3. Use your calculator to find each to the nearest hundredth.

a) $\csc 89° = 1.00$ $\quad = \frac{1}{\sin 89°}$

b) $\cot 9° = 6.31$ $\quad = \frac{1}{\tan 9°}$

c) $\sec 22° = 1.08$ $\quad = \frac{1}{\cos 22°}$