2.3. Finding Trig Function Values using a calculator

Tuesday, February 5, 2019 8:07 AM

(1) Angle is given, find trig function values

E.g. $\sin(41^\circ 30')$

$$\sin\left(41^\circ + \left(\frac{30}{60}\right)^\circ\right) \approx 0.66262.$$

E.g. $\cot(-68^\circ 13') = \dfrac{1}{\tan(-68^\circ 13')}$

1st step: $\tan\left(-\left(68^\circ + \frac{13}{60}^\circ\right)\right)$ } Ans: -0.399634

2nd step: take reciprocal.

E.g. $$\frac{\cos(64^\circ)}{\sin(64^\circ) + \csc(64^\circ)} = \frac{\cos(64^\circ)}{\sin(64^\circ) + \dfrac{1}{\sin(64^\circ)}}$$

Step 1: Denominator.

→ get an answer.

Step 2: $\cos(64^\circ) \Big/$ answer from Step 1 $= 0.21794\ldots$

E.g. $$\frac{\tan(31.2^\circ) + \cot(31.2^\circ)}{1 - \sec^2(31.2^\circ)}$$

$$\frac{\tan(31.2^\circ) + \dfrac{1}{\tan(31.2^\circ)}}{1 - \dfrac{1}{\cos^2(31.2^\circ)}} \approx -6.1531$$

(2) Trig Function Values are given find angle.

E.g. Find an acute angle θ such that

$$\cos\theta = \frac{1}{2}$$

$2^{nd} \rightarrow \cos \rightarrow \frac{1}{2} \rightarrow$ Ans: $60°$.

E.g. Find an angle θ such that

$$\sec\theta = 2$$

$$\longrightarrow \sin\theta = \frac{1}{2}$$

$2^{nd} \rightarrow \sin \rightarrow \frac{1}{2} \rightarrow 30°$

E.g. Find an angle β such that

$$\cot\beta = 5.98126 54$$

$$\tan\beta = \frac{1}{5.98126 54}.$$

$$\beta \approx 9.48925°\ldots$$