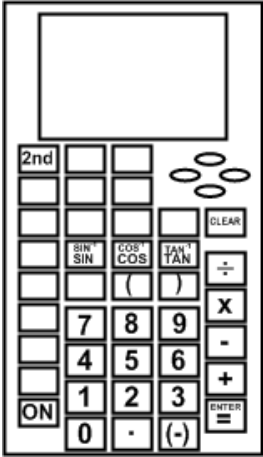


Trigonometry with a Calculator



**Example:** Determine  $HK$ .

$$\cos(31) = \frac{HK}{6}$$

$$\frac{\cos(31)}{1} = \frac{HK}{6}$$

$$6[\cos(31)] = HK$$

$$HK = 6[\cos(31)]$$

**Calculator:**

Type **6** **x** **(** **cos** **(** **3** **1** **)** **)** **=**

The screen will say: 5.1430038042...

Round to the nearest tenth.  $HK = \boxed{5.1}$

**Example:** Determine  $m\angle C$ .

$$\tan C = \frac{2}{3}$$

$$m\angle C = \tan^{-1}\left(\frac{2}{3}\right)$$

Type

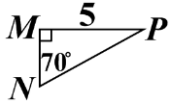
**2nd** **TAN** **(** **2** **÷** **3** **)** **=**

The screen will say: 33.690067526...

Round to the nearest degree.

$$m\angle C = \boxed{34^\circ}$$

**Example:** Evaluate  $NP$ .

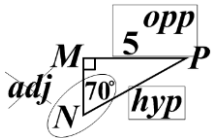


Focus on  $\angle N$

$m\angle P = 20^\circ$	$\overline{MN}$	Adj
$m\angle N = 70^\circ$	$\overline{MP} = 5$	Opp ← side I have
$m\angle M = 90^\circ$	$\overline{NP}$	Hyp ← side I want

S[O]H CA[H] T[O]A

$$\sin(\text{focus angle}) = \frac{\text{Opp}}{\text{Hyp}} \rightarrow \sin(N) = \frac{MP}{NP}$$



$$\sin(70) = \frac{5}{NP}$$

$$\frac{\sin(70)}{1} = \frac{5}{NP}$$

$$NP[\sin(70)] = 5$$

$$\div \sin(70) \div \sin(70)$$

$$NP = \frac{5}{\sin(70)}$$

$$NP = \boxed{5.3}$$

**Calculator:**

Type **5** **÷** **(** **sin** **(** **7** **0** **)** **)** **=**

The screen will say: 5.3208888624...

Round to the nearest tenth.

Evaluate sides to the nearest tenth and angles to the nearest degree.

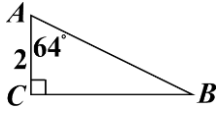
1. $\cos(47) = \frac{PQ}{8}$	2. $\sin(K) = \frac{6}{7}$	3. $\sin(68) = \frac{3}{KL}$
4. $\cos(E) = \frac{5}{8}$	5. $\tan(Y) = \frac{3}{8}$	6. $\tan(18) = \frac{4}{WY}$
7. $\cos(P) = \frac{1}{8}$	8. $\sin(74) = \frac{GH}{9}$	9. $\sin(M) = \frac{5}{7}$

10.  $\tan(9) = \frac{2}{RS}$

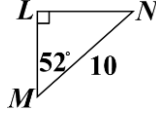
11.  $\sin(G) = \frac{7}{9}$

12.  $\cos(85) = \frac{EG}{1}$

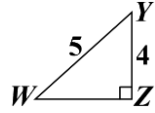
13. Evaluate  $BC$ .



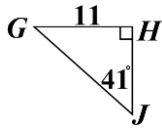
14. Evaluate  $LM$ .



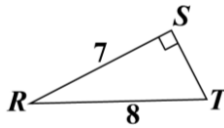
15. Evaluate  $m\angle W$ .



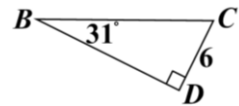
16. Evaluate  $GJ$ .



17. Evaluate  $m\angle R$ .



18. Evaluate  $BD$ .



**Using Trig to Solve Right Triangles (Part 1) Answers**

1. $PQ = 5.5$	2. $m\angle K = 59^\circ$	3. $KL = 3.2$	4. $m\angle E = 51^\circ$	5. $m\angle Y = 21^\circ$
6. $WY = 12.3$	7. $m\angle P = 83^\circ$	8. $GH = 8.7$	9. $m\angle M = 46^\circ$	10. $RS = 12.6$
11. $m\angle G = 51^\circ$	12. $EG = 0.1$	13. $BC = 4.1$	14. $LM = 6.2$	15. $m\angle W = 53^\circ$
16. $GJ = 16.8$	17. $m\angle R = 29^\circ$	18. $BD = 10.0$		