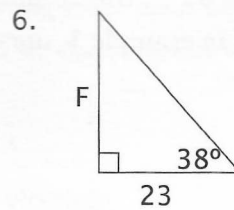
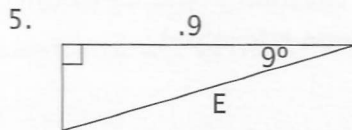
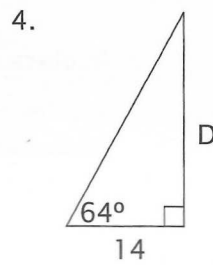
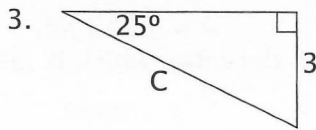
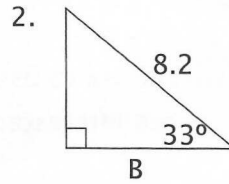
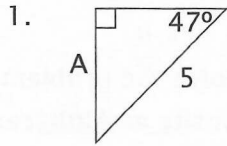


Practice Problems

To solve for the unknown, carefully examine what information is given, and choose the trig function that will solve the problem most efficiently. Remember that there is more than one way to solve each problem. Estimate your answer.



Example 1

Find the decimal ratio for $\sin 30^\circ$.

Enter 30 into your calculator and then hit **sin**.

The screen should read .5.

Example 2

Find the decimal ratio for $\tan 81^\circ$.

Enter 81 into your calculator and then hit **tan**.

The screen should read **6.313751**, or 6.3138 when rounded to four places or ten-thousandths as in the table.

Practice Problems 1

Find the decimal ratio for each angle. Use your calculator and round to ten-thousandths.

1. $\sin 14^\circ$

2. $\tan 88^\circ$

3. $\tan 67^\circ$

4. $\cos 36^\circ$

5. $\sin 52^\circ$

6. $\cos 45^\circ$

Change the minutes to degrees:

$$\frac{20.75 \text{ min}}{1} \times \frac{1 \text{ deg}}{60 \text{ min}} = \frac{20.75}{60} \text{ deg} = .3458 \text{ degrees}$$

(rounds to .35°)

So $34^\circ 20' 45'' = 34.35^\circ$.

Now we can find the trig ratio by entering 34.35° and using sine, cosine, or tangent to find the ratio.

Practice Problems 3

Change the degrees–minutes–seconds to a decimal number using unit multipliers.

1. $28^\circ 30' 25''$

2. $53^\circ 42' 10''$

3. $36^\circ 24'$

4. $41^\circ 15' 48''$

5. $18^\circ 50' 08''$

6. $62^\circ 00' 06''$

Example 6

Find the decimal ratio for $\sin 15^\circ 24' 50''$.

Enter 15.2450 (DMS).

Push the button **DMS→DD**. It shows 15.413888 (DD).

Push the button **sin**.

It reads .2657898, which may be rounded to .2658

Practice Problems 4

Use the calculator to find the decimal ratio for each angle.

1. $\cos 7^\circ 34'$

2. $\sin 68^\circ 27' 43''$

3. $\sin 36^\circ 48'$

4. $\tan 24^\circ 12' 12''$

5. $\tan 50^\circ 08' 22''$

6. $\cos 47^\circ 00' 05''$

Example 7

What is $\arcsin (.5222)$?

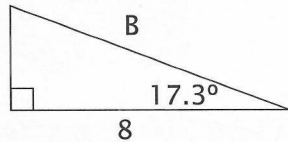
$$\arcsin (.5222) = 31.48^\circ \text{ or } 31^\circ 28' 48''$$

When estimating this kind of problem, think of $.48^\circ$ as a little less than half of a degree. A little less than one-half of 60 minutes would be 28 or 29. So $28' 48''$ (28 minutes 48 seconds) is what we should expect.

Practice Problems 5

1. $\arctan (.6565) = \underline{\hspace{1cm}}^\circ$
2. $\arcsin (.0911) = \underline{\hspace{1cm}}^\circ$
3. $\arcsin (.8874) = \underline{\hspace{1cm}}^\circ$
4. $\arccos (.9600) = \underline{\hspace{1cm}}^\circ$
5. $\arccos (.3131) = \underline{\hspace{1cm}}^\circ$
6. $\arctan (1.5988) = \underline{\hspace{1cm}}^\circ$

Example 8



$$\cos 17.3^\circ = \frac{8}{B}$$
$$B = \frac{8}{\cos 17.3^\circ} = \frac{8}{.9548}$$

$$B = 8.38$$

Practice Problems 6

Use your calculator to solve for the missing side or angle.

