Section 2.3

Using a Calculator for Trigonometric Functions

Sine, Cosine, and Tangent

1. Compute the following trigonometric function values:

   (i) $\sin(52°)$

   (ii) $\cos(187.48°)$

   (iii) $\tan(-2000°)$

2. Compute the following trigonometric function values of degrees in DMS. You can either convert DMS to DD first, or input DMS directly if your calculator supports it.

   (i) $\sin(187°44′)$

   (ii) $\cos(-225°32′11″)$

   (iii) $\tan(1500°22′38.95″)$

The Other Trigonometric Functions

3. Most calculators only have [sin], [cos], and [tan] buttons for calculating trigonometric functions. Use the *reciprocal identities* to calculate trigonometric function values for the trigonometric functions.

(i) $\sec(52°)$

(ii) $\cot(187°)$

(iii) $\csc(-225°32'11'')$

(iv) $\cot(1500°22'38.95'')$

Inverse Trigonometric Functions

4. For the following, find an approximate value for θ where the trigonometric function yields the given value.

(i) $\cos\theta = 0.87$

(ii) $\sin\theta = -0.53$

(iii) $\tan\theta = 1.115$

5. Like before, most calculators only have the inverse trigonometric functions $\boxed{\sin^{-1}}$, $\boxed{\cos^{-1}}$, and $\boxed{\tan^{-1}}$. Use the *reciprocal identities* to calculate the inverse for the other trigonometric functions. Again, find an approximate value for θ where the trigonometric function yields the given value.

(i) $\sec\theta = 2.54$

(ii) $\csc\theta = -2.6$

(iii) $\cot\theta = 12.5$