MATH 1301
Test III

Fall 2001   Saber Elaydi

Show all your work.   **Use calculator only when indicated.**

1.   Determine the exact values (no calculator) of the six trigonometric functions of an angle θ in standard position if the terminal side of θ goes through the point (-5, -11).

2.   A corner lot in the shape of a triangle is bounded on the north and west by streets that intersect at a right angle. The boundary on the third side is a fence that is 322 feet long and makes an angle of 39° 40´ with the street along the west side of the lot. Find that length of the frontage on the street along the west side of the lot.
                                                                        (use calculator)

3.   Verify that the equation

$$\frac{\sec A}{\cos A} - \frac{\tan A}{\cot A} = 1$$
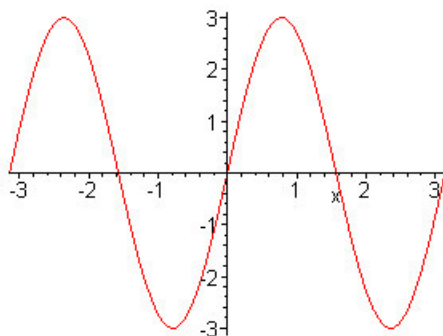
is an identity.

4.	Verify that the equation

$$\frac{\sin x}{\sec x - 1} + \frac{\sin x}{\sec x + 1} = 2\cot x$$

is an identity.

5.	Solve the right triangle that has

A = 16, A = 35°

6.	Find an equation of the form $y = a\cos(bx + c)$ that has the graph

7.	Suppose that cos θ = -·35 and θ in QIII, find θ in radians. (use calculator)

8.   Write out the exact values (no calculator) of all the trig functions of the angle 315º.

9.   If $\tan\theta = \sqrt{3}$, find all values of θ in degrees. (no calculator)

10.   Sketch the graph (no calculator) of

$$y = \frac{2}{5}\sin(x - \frac{\pi}{2})$$

Find the (a) period, (b) the amplitude and (c) the phase shift.