

**Math 181 Chapter 7**      **Name** \_\_\_\_\_

Show your work in the spaces provided.

I. Problems 1 - 3 refer to triangle ABC, which is **not** necessarily a right triangle.

1.  $A = 47^\circ$ ,  $c = 56''$ ,  $B = 85^\circ$  25 pts

$C =$  \_\_\_\_\_

$a =$  \_\_\_\_\_

$b =$  \_\_\_\_\_

Area of  $ABC =$  \_\_\_\_\_

2.  $A = 40^\circ$ ,  $b = 62$  cm,  $a = 54$  cm 25 pts

$B =$  \_\_\_\_\_

$C =$  \_\_\_\_\_

$c =$  \_\_\_\_\_

3.  $a = 24$ ,  $b = 30$ ,  $c = 51$  25 pts

$A =$  \_\_\_\_\_

$B =$  \_\_\_\_\_

$C =$  \_\_\_\_\_

II. Two planes leave an airport at the same time. One travels on a course of  $N20^\circ E$  at 450 mph and the other on a course of  $N84^\circ E$  at 370 mph. How far apart will the planes be after 3 hours? 10 pts

III. Two radar stations spot a UFO. Station A measures the angle of elevation to the UFO to be  $17^\circ$  and 60 miles to the East of Station A at Station B the angle of elevation to the UFO is  $23^\circ$ . How far is the UFO from Station B? 10 pts

IV. Explain why it is impossible to have a triangle with the dimensions shown below. 5 pts

