MAT 300-01 **Homework Sheet 4**
Spring 2008

Assignment 11

Read problems 13 and 14 on p.26.

a. Find the reciprocal in base 60 of 18.

b. Using sexagesimal arithmetic and the distributive property, multiply 25 by 1, 04.

c. Using sexagesimal arithmetic and the distributive property, divide 50 by 18 by multiplying 50 by the reciprocal of 18 (which you found in part a.).

d. Use the Babylonian method, either version, to find $\sqrt{19}$, the square root of 19. You only need to do one iteration..

Assignment 12

Expressing your answer in sexagesimal notation,
add 30, 22, 16 and 15, 56, 18 .

Assignment 13

A. Using the Babylonian method of solving systems of equations, find the solution to the following system:

$$xy = 144$$
$$x+y = 26$$

B. Using the Babylonian method of solving systems of equations, find the solution to the following system:

$$xy = 21$$
$$x - y = 4$$

C. Use our completing the square argument to solve the following problem. Write the solution in the manner that the Babylonians would have. You do not need to use sexagesimal numbers; you may use our numbers.

I have added up a square and seven of its sides and get 60. Find the side of the square.

D. Use our completing the square argument to solve the following problem. Write the solution in the manner that the Babylonians would have. You do not need to use sexagesimal numbers; you may use our numbers.

From the area of my square I have subtracted 12 sides and get 160. Find the side of the square.