

Math 141, Lec 1  
EXAM 1  
2/16/00

Name \_\_\_\_\_

SCORE \_\_\_\_\_

1. ( 20 pts) An airliner flies a trip of 850 miles at an average speed of 470 mph. It carries 72 passengers, and its fuel cost is 1.9 cents per passenger mile. What is the fuel cost on this flight in *dollars per hour*?

2. (20 pts) A certain airline sold  $\frac{3}{4}$  of the seats on a flight from Madison to Detroit, including  $\frac{2}{3}$  of its first class seats. If  $\frac{1}{5}$  of all its seats are first class, what fraction of the unsold seats were first class?

3. (20 pts) In 1997, I bought shares in two funds: an Internet fund and a Value fund. The Internet fund went up 30% in 1997 and down 40% in 1998. The Value fund went down a total of 10% over the two year period. Which fund had a greater percent decrease over the two year period? Why?

4. (20 pts) An 8.3 *gigabyte* hard disc is partitioned into 10 equally sized program storage sectors and 60 work sectors. Each work sector is  $\frac{1}{20}$  the size of a program storage sector. How many *megabytes* in a work sector? (recall: giga means billion and mega means million)

5. (20 pts) Suppose you can *paint* at a rate of 8 sq ft per minute, *prime* at a rate of 12 sq ft per minute, and *scrape* at a rate of 3 sq ft per minute. You are going to bid on painting a house with 2400 sq ft of surface, of which  $x\%$  must be both scraped and primed, and an additional  $y\%$  primed. Make a formula for the total time required in terms of  $x$  and  $y$ .