

141 EXAM I — September 25, 2000

NAME: _____

INSTRUCTIONS:

Show all your work. Answers alone will receive little or no credit. Be neat and careful with your calculations. A mistake early on could be costly. Don't forget to write in English sentences. You may include mathematical notation but it should read as an English sentence. Give your reasons. This is a course in quantitative reasoning. It is your reasoning which you must demonstrate.

SCORES

1. _____

2. _____

3. _____

4. _____

5. _____

TOTAL _____

1. (20 p'ts.) An electric company charges their customers a monthly connection fee in addition to the charge per kilowatt-hour used. Here are two bills from one customer.

May	800 KWH	\$97.50
June	760 KWH	\$92.90

Give your answers in dollars.

a) How much does each kilowatt-hour cost?

Ans. _____

b) What is the connection fee?

Ans. _____

n fee in
er.

2. (20 p'ts.) A watt is .737 foot pounds per second. Suppose I work at a rate of 80 watts, weigh 180 pounds and that a flight of stairs is 12 feet high. How long will it take me to climb two flights of stairs? **Give your answer in minutes and seconds.**

Ans. _____

3. (20 p'ts.) I filled my gas tank with 10.4 gallons of gas at the first of the week. Later in the week, I filled it again putting in 9.8 gallons of gas. I read the odometer at 35,652 miles and calculated that I was getting 28 miles per gallon. What was the odometer reading when I filled my car at the first of the week?

Ans. _____

Later in
52 miles
reading

4. (20 p'ts.) A bicycle racer's speed is determined by timing him over 100 yards. If he covers that distance in 8.2 seconds, how fast is he peddling? **Give your answer in miles per hour.**

Ans. _____

5. (20 p'ts.) A 10 once box of cereal costs \$2.30. A 16 once box costs \$3.20 and a 20 once box costs \$4.20.

a) Which is the best buy?

Ans. _____

b) Which is the worst buy?

Ans. _____

Suppose you use a 90 cent coupon.

c) Which is the best buy?

Ans. _____

d) Which is the worst buy?

Ans. _____