Quiz 2

Math 1030
09/17/04

Name: ________________________________

Read all of the following information before starting the exam:

• Show all work, clearly and in order, if you want to get full credit. I reserve the right to
take off points if I cannot see how you arrived at your answer (even if your final answer is
correct).

• Justify your answers algebraically whenever possible to ensure full credit. When you do
use your calculator, sketch all relevant graphs and explain all relevant mathematics.

• Circle or otherwise indicate your final answers.

• Please keep your written answers brief; be clear and to the point. I will take points off for
rambling and for incorrect or irrelevant statements.

• This test has 4 problems and is worth 25 points, plus 1 extra credit at the end. It is your
responsibility to make sure that you have all of the pages!

• Good luck!
1. (4 points) Determine whether the argument is valid. Then, determine the truth of the premise and state whether or not the argument is sound.

Premise: If an animal is a horse, then it is a mammal.
Premise: Clydesdales are mammals.
Conclusion: Clydesdales are mammals.

2. (6 points) Identify the units you would expect for the given quantity. State in words and mathematically.

a. (2 pts) The flow of blood through your heart, found by measuring the volume of blood in milliliters and dividing by the number of seconds.

b. (2 pts) The concentration of chocolate in your chocolate milk, found by taking the mass in ounces of the chocolate and dividing by the volume of milk in pints. (this could be thought of as the units for chocolatiness)

c. (2 pts) The amount of work done pushing a cart, found by measuring the force you push with in pounds and multiplying by the distance traveled in feet.
3. (6 points) Answer the following:
   a. (2 pts) What does it mean for a deductive argument to be valid?

   b. (2 pts) What does it mean for a deductive argument to be sound?

   c. (2 pts) What does it mean for an inductive argument to be strong?
4. (9 points) Convert the following using the conversion table.

<table>
<thead>
<tr>
<th>1 yd</th>
<th>=</th>
<th>3 ft</th>
<th>1 lb</th>
<th>=</th>
<th>0.4356 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mi</td>
<td>=</td>
<td>5680 ft</td>
<td>1 m</td>
<td>=</td>
<td>1.094 yd</td>
</tr>
</tbody>
</table>

a. (2 pts) Convert 18yd into ft.

b. (3 pts) Convert 20m/s into ft/min.

c. (2 pts) Convert 10lb into kg.

d. (2 pts) Convert 1ft^2 into in^2. (You will have to remember the conversion from ft to in on your own.)
Bonus Question (1 Extra Credit Points):

BONUS QUESTION The human year is divided into 7 dog years. Assume that Human New Year’s Day is also a New Years Day for dogs. Give the month and day for the third doggy new year. (Use a 365 day year, not a leap year. Extra Credit is all or nothing.)