Ratio Riddles

a) A person who weighs 160 pounds on Earth will weigh 416 pounds on the planet Jupiter. How much will a person weigh on Jupiter who weighs 120 pounds on Earth?

b) At the local college, 5 out of every 8 seniors live in apartments. How many of the 30 senior math majors are likely to live in an apartment?

c) The tax on a purchase of $20 is $1.12. How much tax will there be on a purchase of $45.50?

d) When in Australia, you can exchange $4.50 in U.S. dollars for $6.00 Australian. How much is $17.50 Australian in U.S. dollars?

Solve these problems in any way that makes sense to you. Explain your reasoning clearly. Record your answer in words, maintaining the context.

Candy Bars

Pretend that the following rectangles are candy bars. Cut each one into pieces to make the statements below each rectangle true. Explain (in each case) why your answers make sense.

1.

Sammy's part is 1/2 as large as Felicia's part.
Felicia's part is _____ times as large as Sammy's part.
How much of the candy bar is Felicia's?
What is the ratio of Sammy's part to Felicia's part?

2.

Lydia's part is 3/5 as large as Rebekah's part.
Rebekah's part is _____ times as large as Lydia's part.
How much of the candy bar is Lydia's?
What is the ratio of Lydia's part to Rebekah's part?

3.

Tami's part is 4/3 as large as Jason's part.
Jason's part is _____ as large as Tami's.
How much of the candy bar is Tami's?
What is the ratio of Tami's part to Jason's part?

4. Create your own Candy Bar problem. Provide your solution and explain why it works.

Comparing Ratios

a.) Terry can run 4 laps in 12 minutes. Susan can run 2 laps in 5 minutes. Who is the faster runner, or are they equally fast?

b.) Jack and Jill were picking strawberries at the Pick Your Own Berry Patch. Jack "sampled" 5 berries every 25 minutes. Jill ate 3 berries every 10 minutes. If they both pick at about the same speed, who will bring home more berries, or will they each take home the same?

c.) Some of the hens in Farmer Brown's chicken farm lay brown eggs and the others lay white eggs. Farmer Brown noticed that in the large hen house he collected about 4 brown eggs for every 10 white ones. In the smaller hen house the ratio of brown to white was 1 to 3. In which hen house do the hens lay more brown eggs, or is it the same in each?

d.) Talks-A-Lot phone company charges 70¢ for every 15 minutes. Reaching Out phone company charges $1.00 for every 20 minutes. Which company is offering the cheaper rate, or are the rates the same?

e.) You have a 3 x 5 rectangle and an 8 x 14 rectangle (3 and 8 indicate the width). Are they equally wide? If not, which is wider?

Solve these problems in any way that makes sense to you. Explain your reasoning clearly.