Mathematical Modeling (with Chuck Norris)

Problem 1.

After becoming a proud parent, you discover that feeding junior is not as easy as it’s cracked up to be. He is supposed to have an 8 ounce bottle, warmed and sterilized, and the bottle is supposed to contain 80 calories. The problem is that the formula you have has 25 calories per ounce. You can mix the formula with water, but how much of everything should you put in the bottle?

Problem 2.

You find a freaking awesome stereo system your second week of college. Unfortunately, you have no money and it costs 800 bucks. However, the sales guy lets you know that they’re having a 20% off sale next month. Now you’re not loaded, but you do have this sweet job in the library where you check out chicks at the front desk for $6 an hour. (They say they pay you more, but that’s what actually comes in your paycheck.) How much are you going to have to work to get your smoking subwoofers?

Problem 3.

Many years ago, Chuck Norris defeated the alien from the movie Predator using only a coffee stirrer. He then imprisoned the alien in a cylinder with radius 10 ft and volume 4060 cubic feet. What is the height of the cylinder? (Round your answer to 2 decimal places)

Problem 4.

You and Chuck Norris decide to go camping. Chuck offers to help you collect firewood. You can collect about 2 pounds of wood per minute and Chuck (or Mr. Norris as you better call him) can collect about 1300 pounds of wood per minute (only counting the branches of trees ripped from the ground – not the roots). Together you spend a total of 25 minutes collecting wood and gather 699 pounds of firewood. How long did each of you work?
Homework:

1. While you were reading this sentence, Chuck Norris’ judo chop ability increased 73.8%, and he can now perform 63 judo chops per second. How many could he perform per second before the increase? (Round your answer to the nearest judo chop)

2. The President has determined that the 78,000 Taliban fighters in the mountains of Afghanistan are fools that must be pitied ASAP. The President logically calls upon Chuck Norris and Mr. T. Now, if Chuck Norris can pity all 78,000 fools in 5 days, and if Mr. T (the recognized world leader in fool-pitying) can pity the same number of fools in 2 days, how long would it take Chuck and T to pity the Taliban if they worked together? (Chuck wants his time in days, hours, minutes, and seconds)

3. Suppose you have $20000 that you would like to invest. The T. Rowe Price New Horizons Fund, the best small-cap mutual fund of 2008, has a return of 4%. On the other hand, money left under Chuck Norris’ pillow has a return of 16%. How should you split your investment so that you earn exactly $2168 in interest?

4. Chuck Norris’ “blood” is really a combination of 15% human blood, 38% gasoline, and 47% hate. If the total volume of blood in Chuck’s body is 4.7 liters, and if gasoline sells for $3.55/gallon, estimate the value of the gasoline in Chuck’s blood.

5. The Pronghorn Antelope, one of the fastest land animals on Earth, can reach a top speed of 61 mph. Chuck Norris, the fastest land animal on Earth, can run at 84 mph. Starting at the same point, if Chuck gives the antelope a one hour head start, how long until he seizes and consumes the antelope raw? (in days, hours, minutes, seconds format)