Your name:

**Chapter 7: Test on US-Metric Conversion**

For the questions below, use the rough approximations I told you to memorize. You may not use a calculator. Each question is worth 2 points, and I will give partial credit, so show your work.

1. If I need 200 grams of grease to lubricate each of my 7 machines, how many pounds of grease do I need?

2. If it is 20 degrees Celsius, what is the Fahrenheit temperature?

3. If each dessert at the banquet requires 50ml of syrup, and there are 100 guests, how many gallons of syrup are needed?

4. If we lay a 6-inch ruler next to a one-foot ruler, how many centimeters is their combined length?

5. If it is 23 degrees Fahrenheit, what is the temperature in Celsius?

6. Police learn that the car involved in an accident was going 30km/hour. How many feet per second is that?

Bonus question: A coccus bacterium is about .5 microns long. If you lined up cocci, how many would there be in an inch?

**Chapter 7: Test on US-Metric Conversion ANSWERS**

For the questions below, use the rough approximations I told you to memorize. You may not use a calculator. Each question is worth 2 points, and I will give partial credit, so show your work.

1. If I need 200 grams of grease to lubricate each of my 7 machines, how many pounds of grease do I need?

 200\*7 = 1400 grams, or 1.4kg. Each kg is about 2 pounds, so that is 2.8lbs.

2. If it is 20 degrees Celsius, what is the Fahrenheit temperature? If C= 30, F = (9/5)(20) +32 = 9 (4) + 32 = 36 + 32 = 68.

3. If each dessert at the banquet requires 50ml of syrup, and there are 100 guests, how many gallons of syrup are needed?

 We need 50\*100ml of syrup, which is 5000ml, which is 5 liters. Each liter is about 1 quart, and there are 4 quarts in a gallon, so we need 1.25 gallons.

4. If we lay a 6-inch ruler next to a one-foot ruler, how many centimeters long will that measure?

 6 inches plus 1 foot is 1.5 feet, which is ½ meter, which is 50 centimeters.

5. If it is 23 degrees Fahrenheit, what is the temperature in Celsius? If F = 23, C = (5/9)(23-32) = (5/9) (-9) = -5

6. Police learned that the car involved in the accident was going 30km/hour. How many feet per second is that?

 Divide by 60 and we get .5km/minute. That is 500m/minute, or 1500 feet/minute. That’s 1500/60 feet per second, which is 150/6 which is 25 feet per second.

Bonus question: A coccus bacterium is about .5 microns long. If you lined up cocci, how many would there be in an inch?

One inch is 1/36 meter. One meter is one million microns. Thus, one inch is 1/36 million microns, which is about 27,778 microns. Double that and we get 55,576 cocci in an inch.