Math 1000 Module 1 Homework

Name _____

For full credit, <u>show your work</u>. This may include a picture, table, diagram, your 'guess and check' work, or an equation(s).

1. A welder makes \$2,900 more a year than his friend, an electrician. Together, they earn \$99,900 in a year. How much does each person earn a year?

2. A machinist has a stockpile of metal that weighs 40 pounds and it is increasing by 5 pounds a week. His instructor has a stockpile of metal that weighs 120 pounds, but it is decreasing by 15 pounds a week. In how many weeks will they have the same amount of metal?

3. Tracy makes \$20 per hour as a mechanic and \$14 per hour in a data clerk. Last week she worked 40 hours total and made \$620. How many hours of each job did she work?

4. A culinary arts student wanted to make some extra money, so he opened up a vending cart. It cost him of \$160 per day to run the cart. His average sales per day are 100 cookies at \$1.25 apiece and 80 Pretzels at \$2.50 apiece. What is his profit in a 30 day period?

- 5. Given the sequence: **17**, **23**, **29**, ...
- a) Is it a geometric sequence or arithmetic sequence? _____ Does it have a common difference or common ratio? _____ What is it? _____

b. What are the next 2 terms in the sequence? _____, ____

c. What is the 15th term in the sequence.

- d. Find the sum of the first 15 terms of this sequence.
- 6. Given the sequence: **4**, **20**, **100**, ...
- b) a. Is it a geometric sequence or arithmetic sequence? _____ Does it have a common difference or common ratio?_____ What is it? _____

b. What are the next 2 terms in the sequence? _____, ____

- c. Find the 10th term of the sequence.
- d. Find the sum of the first 10 terms of the sequence.
- 7. For a Fibonacci sequence, the 15th term is 377 and the 17th term is 987.

Find the 16th term.

Find the 18th term.