AFM

* SHOW ALL WORK ON ANOTHER SHEET OF PAPER.

1. Margie put $8500 into an account that compounds continuously at 2.3%. She now has $12,500. To the nearest tenth, how long has the money been in the account?

2. During a figure skating routine, Jack and Mary skate apart with an angle of 15 degrees between them. Jack skates 8 meters and Mary skates for 10 meters. How far apart are the skaters (tenths place)?

3. The shelf life of a particular diary produce is normally distributed with a mean of 12 days and a standard deviation of 3 days. What percent of the products last from 9 to 18 days? (no rounding)

4. A punch-out card contains 30 spaces. Five spaces pay $100, 10 spaces pay $20, and 4 spaces pay $1. The rest of the spaces pay $0. It costs $5.00 to play. What is the expected value if you play 12 times?

5. What is the _common difference_ in the Arithmetic sequence below?

   45, ___, ___, ___, 117

6. Bob wants to measure the height of a tree. He walks exactly 100 ft from the base of the tree and looks up. The angle from the ground to the top of the tree is 35 degrees. This particular tree grows at an angle of 80 degrees with respect to the ground rather than vertically. To the nearest tenths, how tall is the tree?

7. What is the _common ratio_ for the Geometric sequence below?

   .25, ___, ___, ___, 20.25

8. Simplify: $\dfrac{x^2-49}{2x^2+9x-35}$

9. Solve: $\log_3(7x+1)=3$

10. Solve: $5e^{x-2}=15$

11. Evaluate: $\displaystyle\sum_{n=5}^{8} 3n-2$

12. Write a short paragraph About the most important skill (or favorite) you studied in AFM AND how it could help you be successful in the future.