Assignment 3

Instructions:

1. Solve the problems in the order they are presented.

2. Submit your solutions in the format specified by your instructor.

3. Show all your work and reasoning for each problem.

4. Answers should be precise and clear.

5. Use appropriate units of measurement where necessary.

6. Submit your solutions by the due date.

7. Late submissions will be penalized.

8. Collaboration is not allowed.

Problems:

1. Calculate the area of a rectangle with a length of 12 cm and a width of 8 cm.

2. Determine the volume of a cylinder with a radius of 5 cm and a height of 10 cm.

3. Find the derivative of the function f(x) = 3x^2 - 4x + 7.

4. Solve the equation 2x + 3 = 11 for x.

5. Graph the equation y = 2x + 3 on the coordinate plane.

6. Calculate the probability of drawing a red card from a standard deck of 52 cards.

7. Find the mean and median of the following data set: 5, 7, 9, 11, 13.

8. Write a program to print the factorial of a given number.

9. Design a circuit using basic electronic components to amplify an audio signal.

10. Write a short story or a poem inspired by a given prompt.

Due Date: [Insert Due Date]

Submit your solutions to [Insert Submission Method].