

Math 108  
Spring 2024  
Dr. Lily Yen

# Quiz 5

Show all your work

Name: \_\_\_\_\_  
Number: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Score: \_\_\_\_/10

**Problem 1:** Let the derivative of  $f$  be defined by  $f'(x) = (2x + 3)(x - 1)^2$ .

- Draw  $f'$ .
- List all intervals where the original function  $f$  is INCREASING.
- List all inflection points of  $f$ .
- List all intervals where the graph of  $f$  is concave DOWN.

Score: /5

**Problem 2:** Draw the following function including all important features like local extrema, inflection point(s), and asymptotic behaviour. Remember to take appropriate limits to support your claim.

$$y = \frac{x^3}{4 - x^2}$$

Score: /5