

MAC2241 Spring 2017  
Suggested problems for Test 3  
(Test 3 is Monday April 3rd, in class)

Idris Mercer

March 27, 2017

1. Find  $f'(x)$ .

$$f(x) = x - 3 \sin x$$

2. Find  $f'(x)$ .

$$f(x) = 3e^x + \frac{4}{x^{1/3}}$$

3. Find  $f'(x)$ .

$$f(x) = \sqrt{x}(x - 1)$$

4. Find  $f'(x)$ .

$$f(x) = \frac{x^2 - 3x + 1}{x^2}$$

5. Find  $f'(x)$ .

$$f(x) = (x^3 + 2x)e^x$$

6. Find  $f'(x)$ .

$$f(x) = e^x \cos x$$

7. Find  $f'(x)$ .

$$f(x) = \frac{x^3}{1 - x^2}$$

8. Find  $f'(x)$ .

$$f(x) = \frac{1 - xe^x}{x + e^x}$$

9. Find  $f'(x)$ .

$$f(x) = \frac{1 - \sec x}{\tan x}$$

10. Find  $f'(x)$ .

$$f(x) = (x^4 + 3x^2 - 2)^5$$

11. Find  $f'(x)$ .

$$f(x) = \sqrt{1 - 2x}$$

12. Find  $f'(x)$ .

$$f(x) = (2x - 5)^4(8x^2 - 5)^{-3}$$

13. Find  $f'(x)$ .

$$f(x) = e^{x \cos x}$$

14. Find  $f'(x)$ .

$$f(x) = 10^{1-x^2}$$

15. Find  $f'(x)$ .

$$f(x) = \sec^2 x + \tan^2 x$$

16. Find  $f'(x)$ .

$$f(x) = \frac{x}{\sqrt{x^2 + 1}}$$

17. Find  $f'(x)$ .

$$f(x) = x \ln x - x$$

18. Find  $f'(x)$ .

$$f(x) = \sin(\ln x)$$

19. Find  $f'(x)$ .

$$f(x) = (\ln x)^{1/5}$$

20. Find  $f'(x)$ .

$$f(x) = (\ln(1 + e^x))^2$$

21. Find  $f'(x)$ .

$$f(x) = \sin x \ln(5x)$$