

## 2.7 Derivatives of $\cos x$ , $\sin x$ , $e^x$ , and $\ln x$

Calculus

Name: \_\_\_\_\_

**CA #2**

**Find the derivative of each function.**

1.  $f(x) = 6 \cos x + 5e^x$

2.  $f(x) = -2e^x - \sin x + \frac{4}{x^2}$

3.  $f(x) = 9^x - \cos x + \frac{2}{x}$

4.  $f(x) = 7 \sin x - 3 \log_2 x - e^x$

5.  $f(x) = 3 \ln x - 12 \sin x + e$

**Find the value of the derivative at the given point.**

6. If  $f(x) = 8 \ln x + x^4 + \pi$ , find  $f'(2)$

7. If  $f(x) = -5 \cos x - \sin x$ , find  $f'\left(\frac{\pi}{2}\right)$

8. If  $f(x) = 6 \sin x - 2e^x$ , find  $f'(0)$

9. If  $f(x) = 8 \ln x + 4e^x$ , find  $f'(1)$

1. $f'(x) = -6 \sin x + 5e^x$	2. $f'(x) = -2e^x - \cos x - \frac{8}{x^3}$	3. $f'(x) = 9^x \ln 9 + \sin x - \frac{x^2}{2}$
4. $f'(x) = 7 \cos x^x - \frac{x \ln x}{3} - e^x$	5. $f'(x) = \frac{x}{3} - 12 \cos x$	6. 36
		7. 5
		8. 4
		9. $8 + 4e$

Answers to 2.7 CA #2