

**Chapter 2 checkpoint!**

Chapter 1 scorecard:

Learning target:	DF1	DF2	DFa	DFb	AD2
Your confidence level before starting (0-5):					
Your confidence level after the quiz (0-5):					
The mark you earned on this attempt:	Success! Try again!				

Chapter 2 scorecard:

Learning target:	DF3	DF4	DF5	DF6	DF7	DF8
Your confidence level before starting (0-5):						
Your confidence level after the quiz (0-5):						
The mark you earned on this attempt:	Success! Try again!					

Before anything else, please do the following:

- Rank your confidence from 0-5 on each of the learning targets. 5 means “I could teach a whole class about this;” 0 means “I am genuinely not sure I have heard these words before.”
- Write your name on this page and on each of the other pages of the quiz.

Then do the quiz! Some reminders:

- Open notes, closed computer.
- If you need more room to write, use the back of the same learning target page, or ask me for some scratch paper.
- Read the questions carefully and make sure you’re answering each part.
- Use good grammar for derivative problems.
- Show all your work and explain all your thinking!

When you are done:

- Rank your confidence from 0-5 on each of the learning targets. 5 means “I absolutely nailed that question for sure;” 0 means “oof, I definitely didn’t get that one.”
- Make double sure your name is on every page, including any scratch paper.
- Hand in your work, separated by learning target.

Have fun and do your best! I believe in u ♡

**Learning target DF3, version 2**

Demonstrate and explain how to find the derivative of the following functions. Be sure to write down which derivative rules (constant multiple, sum/difference, etc.) you are using in your work.

$$1. \ h(y) = -4 \ln(y) + 3 \sin(y)$$

$$2. \ g(t) = \sqrt[4]{t^3} + \frac{7}{t^4}$$

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

**Learning target DF4, version 2**

Demonstrate and explain how to find the derivative of the following functions. Be sure to write down which derivative rules (product, quotient, sum and difference, etc.) you are using.

$$1. \ h(w) = -\frac{\cos(w)}{6w^2 + 5w + 4}$$

$$2. \ g(w) = \frac{3w^2 + 5w - 1}{w^8} \cos(x)$$

$$3. \ f(w) = -(4w^2 + 6w + 1) \ln(w)$$

**Learning target DF5, version 2**

Demonstrate and explain how to find the derivative of the following functions. Be sure to write down which derivative rules (product, quotient, sum and difference, etc.) you are using.

$$1. \ h(x) = -9 \cos(-5x^2 + 3x + 4)$$

$$2. \ f(y) = -9 \sin\left(y^{\frac{7}{2}}\right)$$

$$3. \ g(t) = -9 \left(\sin(t)\right)^{\frac{7}{2}}$$

$$4. \ k(w) = (3w + e^w - 1)^4$$

**Learning target DF6, version 2**

Demonstrate and explain how to find the derivative of the following functions. Be sure to write down which derivative rules (constant multiple, sum and difference, etc.) you are using.

$$1. \ f(w) = \left( \frac{5w^6 + 1}{5w^6 + 2} \right)^6$$

$$2. \ g(x) = (5x^5 - 2x^3)^6 \sqrt{x}$$

$$3. \ h(y) = \sqrt{\sin(-2y^4 + 4)}$$

## **Learning target DF7, version 2**

1. Use implicit differentiation to find  $\frac{dy}{dx}$ , aka  $y'$ , for the equation  $5x^5 - 2 \sin(y) = -8y^3 - 7$ .
  2. Use implicit differentiation to find  $\frac{dy}{dx}$ , aka  $y'$ , for the equation  $0 = -y \cos(x) - 2e^x$ .