MATH 201 Your name: _____

Learning target DF3, version 4

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. $g(t) = -5t^4 - 9t^3 - 6t^2 - 6$

2. $f(w) = \sqrt[3]{w^5} + \dfrac{4}{w^5}$

3. $h(y) = 2e^y + 2\sin(y)$

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Learning target DF4, version 4

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. $f(x) = -\left(3x^2 - 6x + 2\right)\cos(x)$

2. $h(y) = \dfrac{3y^2 - 3y - 2}{\sin(y)}$

3. $g(w) = \dfrac{2w^2 - w + 4}{w^{\frac{1}{6}}}$

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Learning target DF5, version 4

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

1. $g(t) = 3\cos\left(-3t^2 - 3t + 4\right)$

2. $h(y) = 5\sin\left(y^{7/2}\right)$

3. $k(w) = 5\left(\sin(w)\right)^{7/2}$

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

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Learning target DF6, version 4

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

1. $h(t) = \sqrt{\cos(-4t^3 - t)}$

2. $g(w) = \left(5w^3 + 7w^2\right)^3 \cdot \sqrt{w}$

3. $f(y) = \left(\dfrac{y^2 - 5}{3y^3 + 4}\right)^5$

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Learning target DF7, version 4

Use implicit differentiation to find $\frac{dy}{dx}$, aka y', for the equations below.

1. $6x^5 + y^3 = 8 - 3e^y$

2. $-3\sin(x) = 5x \cdot \cos(y)$