

MATH131 – Calculus I
Derivative Exam – Practice Problems

Practice Exam #1 (10 points per question):

1) $\frac{d}{dx} 3x^8 + 8x^{-1} - 6x^{-9} - 7 =$

2) $\frac{d}{dx} \sin(x) + \tan(x) =$

3) $\frac{d}{dt} 7\sec(t) - 2\sqrt{t} =$

4) $\frac{d}{ds} (-8s^{-15} - 2)\cot(s) =$

5) $\frac{d}{ds} \frac{\cot(s)}{\cos(s) + 6} =$

6) $\frac{d}{dx} \tan(6x^{-9} - 6) =$

7) $\frac{d}{dt} 5[\csc(t)]^{12} =$

8) $\frac{d}{dx} \cos(x) + \sin(-8x^{-7} + 8) =$

9) $\frac{d}{ds} [\tan(-9s^4 - 5)]6s^4 =$

10) $\frac{d}{dx} -9[-3 + \tan(\sqrt{x})]^{-6} + 5 =$

Practice Exam #2 (10 points per question):

1) $\frac{d}{dt} 8t^{-19} - 10t^{18} - t^5 + 9 =$

2) $\frac{d}{dt} -t^7 - 2 - 7t^{-14} =$

3) $\frac{d}{dx} -8\sin(x) - 4\tan(x) =$

4) $\frac{d}{dx} \csc(x)\sec(x) =$

5) $\frac{d}{ds} \frac{\sec(s)}{\cos(s) - 5} =$

6) $\frac{d}{dt} 5[\cos(t)]^{-13} - 7 =$

7) $\frac{d}{dx} 4[\cot(x)]^{-13} =$

8) $\frac{d}{dt} \sin(t) - 2[\sqrt{t}]^{-18} + 9 =$

9) $\frac{d}{ds} [-6(3s^{14} + 9)^{18}] \tan(s) =$

10) $\frac{d}{ds} \sqrt{2 + \tan(\sin(s))} =$

Practice Exam #3 (10 points per question):

- 1) $\frac{d}{dt} -9t^{16} + 4t^{-8} - 5t^{19} - 9 =$
- 2) $\frac{d}{dt} \csc(t) + 9t^{-17} + 3 =$
- 3) $\frac{d}{dt} 4\sin(t) - 10\sec(t) =$
- 4) $\frac{d}{dt} \sqrt{t} \cos(t) =$
- 5) $\frac{d}{dx} \frac{\cos(x)}{\tan(x) + 3} =$
- 6) $\frac{d}{dx} \sqrt{\cos(x)} =$
- 7) $\frac{d}{dt} -5[\tan(t)]^{-5} + 5 =$
- 8) $\frac{d}{dt} \sqrt{t} + 5(-6t^{-17} - 2)^{-1} =$
- 9) $\frac{d}{dt} [\sin(-6t^{-11} - 2)]\tan(t) =$
- 10) $\frac{d}{dx} \tan(7 + 2[\sin(x)]^{-15} + 5) =$

Practice Exam #4 (10 points per question):

- 1) $\frac{d}{dx} -7x^{-5} + 5x^3 + 6x^{-6} - 5 =$
- 2) $\frac{d}{dt} \cos(t) - 2t^9 - 2 =$
- 3) $\frac{d}{dt} -9\cot(t) - 10\sin(t) =$
- 4) $\frac{d}{ds} \sec(s)\tan(s) =$
- 5) $\frac{d}{dt} \frac{\tan(t)}{3t^{19} + 2} =$
- 6) $\frac{d}{ds} 2[\tan(s)]^{-16} + 8 =$
- 7) $\frac{d}{ds} \sqrt{\cos(s)} =$
- 8) $\frac{d}{dx} \tan(x) + 9[\sin(x)]^{-13} =$
- 9) $\frac{d}{dt} [\sqrt{4t^8 + 5}](-9t^{10} - 10) =$
- 10) $\frac{d}{dt} \sin(-7 + \tan(\cos(t))) =$

Practice Exam #5 (10 points per question):

1) $\frac{d}{dt} -3t^{-19} - 3t^{-15} - 7t^{18} - 2 =$

2) $\frac{d}{dx} \sin(x) + \csc(x) =$

3) $\frac{d}{ds} -8\cot(s) + 3\cos(s) =$

4) $\frac{d}{dt} [5t^{-3}]\sqrt{t} =$

5) $\frac{d}{dt} \frac{\tan(t)}{\sec(t) - 8} =$

6) $\frac{d}{dx} \sqrt{5x^{13}} =$

7) $\frac{d}{dt} -10[\tan(t)]^{-4} - 4 =$

8) $\frac{d}{dx} \cos(x) + \sin(-2x^9 + 8) =$

9) $\frac{d}{dt} [\tan(-3t^{-13} + 7)]\sqrt{t} =$

10) $\frac{d}{ds} 3[3 + \sqrt{\sin(s)}]^{17} - 8 =$

Practice Exam #6 (10 points per question):

1) $\frac{d}{dx} 8x^{-6} + 7x^{10} + 4x^3 - 29x^2 - 5 =$

2) $\frac{d}{dt} \cos(\sqrt[5]{t} - \sqrt{t}) =$

3) $\frac{d}{dx} e^{\sin(x^2 + 5x + 1)} =$

4) $\frac{d}{dx} [4(3x^3 - 8x)]^{\frac{33}{4}} =$

5) $\frac{d}{dx} [(7x^2 + 2)^2 \tan(9x^4 + x)] =$

6) $\frac{d}{dt} \frac{t^2 + \sec(t)}{t^3 + 10t} =$

7) $\frac{d}{ds} \sin(e^{2s} + \csc(s)) =$

8) $\frac{d}{dx} [\cos(3x) + (\cot x)^{10}] =$

9) $\frac{d}{dx} [(1 + \tan x)^{200} - \sin \sqrt{x}] =$

10) $\frac{d}{dx} (\sqrt[3]{8x^9 - \cos e^x})(10 - \cos(x - 3)) =$