

No books, notes or graphing calculators. Turn off your cell phones.

Differentiate the following functions. Each question is graded *right* or *wrong* - no partial credit. You do not have to simplify your answer unless specifically instructed otherwise. Check your answers!

(1) 1. $f(x) = \sin x$

(1) 2. $f(t) = (t + 1)\sqrt{t + 1}$

(1) 3. $f(x) = e^{4x}$

(1) 4. $f(t) = \sqrt{\frac{t^3 - 6}{t^2 + 5}}$

(1) 5. $f(x) = e^{\ln x}$. Simplify your answer as much as you can.

(1) 6. $f(x) = (x^3 - 3x + 2)^{23}(x^7 - 1)^{17}$

(1) 7. $f(x) = \frac{1}{\sqrt{(\tan x)^3}}$

(1) 8. $f(x) = \ln(\sec^2 x)$

(1) 9. $f(x) = \sec^2 x - \tan^2 x$. Simplify your answer as much as you can.

(1) 10. $f(x) = 17^{17x^3}$