

Circle your Instructor: Faudree, Williams, Zirbes

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Name: _____

This is a 30 minute quiz. There are 15 problems. Books, notes, calculators or any other aids are prohibited. Calculators and notes are not allowed. **Your answers should be simplified unless otherwise stated.** They should begin $y' =$ or $f'(x) =$ or $dy/dx =$, etc. There is no partial credit. If you have any questions, please raise your hand.

Circle your final answer.

For each function below, find the derivative.

1. $g(x) = 4x^e + \ln(10)$

2. $f(x) = \cot(6x) - 2^x$

3. $F(\theta) = \theta \sec(\theta)$

4. $F(x) = \frac{e^x}{x^2 + 3}$ (Use the Quotient Rule.)

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

6. $y = \frac{1}{2x} - \frac{x}{5}$

7. $y = \frac{-5}{\sqrt{x^2 + 9}}$

8. $y = \frac{x^3 - 5x + 4}{\sqrt{x}}$

9. $h(x) = x^2(\ln x)(\sin x)$

10. $y = 4x^{3/2}(x + 2)$

11. $G(x) = \ln \left(\frac{xe^{2x}}{(x^2 + 1)^4} \right)$

12. $g(x) = x^2 e^{1/x}$

13. $f(x) = (2x + \cos(5x))^{-3}$ [You don't need to simplify, but use parentheses correctly.]

14. $H(x) = \arcsin(e^{5x})$

15. Find dA/dt for $A = C \arctan(kt) + 2Ck$ where C and k are fixed constants.