

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. $g(x) = 2x^\pi - e^2$

2. $F(\theta) = \theta \cos(\theta)$

3. $f(x) = 10^x - \csc(2x)$

4. $y = \frac{-2}{\sqrt{x^2-16}}$

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

6. $y = \frac{2}{x} - \frac{x}{4}$

7. $F(x) = \frac{\sin(x)}{x^2+1}$ (Use the Quotient Rule.)

8. $z = \frac{3s^2 - 2s + 1}{\sqrt{s}}$

9. $y = 5x^{5/2}(x - 2)$

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

11. $h(x) = xe^x(\cos x)$

12. $H(x) = \arccos(\ln(3x))$

13. $f(x) = (5x + \sin(2x))^{-4}$ [You don't need to simplify, but use parentheses correctly.]

14. $g(x) = xe^{1/x^2}$

15. Find dP/dr for $P = A \arcsin(mr) + 2Am$ where A and m are fixed constants.