

Homework for Day 3, Session 1

Find the derivative of each function.

1. $g(t) = 5 \sin(t)$

4. $T(w) = -6 \ln w$

2. $h(z) = 3e^z$

5. $W(r) = 10 \ln(r)$

3. $f(x) = 8 \cos(x)$

6. $f(r) = 2 \sin(r) + 6 \cos(r)$

AP Physics Prep
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Name: _____ Date: _____

7. $g(x) = 12x^3 + 19e^x$

10. $f(q) = \ln(e^{q^4})$

8. $K(n) = \ln\left(\frac{e^{\sin(n)}}{n^7}\right)$

11. Find the slope of the tangent that passes through the function

$$f(x) = 6 \ln(x^2) - 5$$

when $x = e$

9. $f(r) = \ln(4x^3)$

12. Given the function

$$Q(r) = 6e^r$$

Find $Q'\left(\frac{\pi}{2}\right)$