

Sample Gateway

- Note:**
1. You may re-take this test as often as you need to in order to pass.
 2. A passing grade is 7 or 8 correct.
 3. Clearly indicate your answer.

1. Find the derivative of: $f(x) = 3 \cdot x^2 + 14 \cdot x + 10$.

2. Find the derivative of: $g(s) = 2 \cdot 4^s$.

3. Find the derivative of: $h(x) = x^3 + 3^x$.

4. Find the derivative of: $p(t) = \ln(t) \cdot 2^t$.

5. Find the derivative of: $k(s) = \frac{\ln(s) - s}{\sqrt{s}}$.

6. Find the derivative of: $q(s) = (1 + s^2)^{-3}$.

7. Find the derivative of: $w(s) = (1 + e^s)^{10}$.

8. Find the derivative of: $j(y) = (2 \cdot y + \ln(y))^8$.