# Calculus 30
# Chapters 8/9 – Integration Practice Assessment

Name: _____

1. Find the differential (antiderivative) for the following:

   a. $y = 20x^4$

   b. $y = 4x^3 - 11$

   c. $y = sinx - e^x + cosx$

2. Use U substitution to find the differential for the following:

   a. $\int cos4x\, dx$

   b. $\int (6x - 11)^8 dx$

3. Find the Integral (area below the curve).

$$\int_{-4}^{-2} \frac{1}{x^2}\, dx$$

4. Find the area above the curve.

$$\int_{1}^{3} (x^2 - 9)\, dx$$

5. Find the area between the curves bounded by the given vertical lines.

   $f(x) = x$

   $g(x) = x^2$

   $x = 1$

   $x = 2$

6. Find the area bounded by $y = x^3$, the tangent line to $y = x^3$ drawn at the point $(2,8)$ and the x-axis.