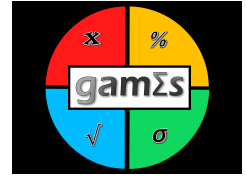


# GAMES Practice Problems – Integration Part 2



1. For each of the following functions, determine the general anti derivative of the function:

(a)  $m(x) = -3 - x^3 - 6x^5 - 3x^7$

(b)  $u(x) = (2 - 7x)^3$

(c)  $v(x) = 2x^2 + 3x + 3$

(d)  $w(x) = (4x + 7)^{11}$

(e)  $y(x) = e^{3x}$

(f)  $z(x) = \frac{9}{x} - 6e^x$

2. Evaluate the indefinite integral using Substitution:

$$\int 2^{6x} dx$$

3. Evaluate the indefinite integral:

$$\int \frac{z}{2z^2 + 8} dz$$

4. Evaluate the indefinite integral:

$$\int \frac{1}{x \ln(3x)} dx$$

5. Evaluate the indefinite integral:

$$\int e^t \sqrt{e^t + 3} dt$$

6. The average value of the function  $v(x) = \frac{4}{x^2}$  on the interval  $[1, k]$  is equal to 2. Find the value of  $k$ .

