Name _____ Quiz 5

1) Find the indefinite integral below.

$$\int e^{3x}dx = \frac{e^{3x}}{3} + C$$

2) Find the definite integral below.

$$\int_2^4 \frac{x^3}{4}dx = \frac{x^4}{4^2}\Big|_2^4 = \frac{4^4}{4^2} - \frac{2^4}{4^2} = 16 - 1 = 15$$

3) The expression gives the area under $y = f(x)$ between $x = 1$ and $x = 3$. What is $f(x)$?

$$\lim_{n\to\infty} \sum_{k=1}^{n} \frac{2}{n} \cdot \left(3\left(1 + k\frac{2}{n}\right)\right)^4$$

$$f(x) = (3x)^4$$