Name _____ Quiz 7

1) Find the indefinite integral below.

$$\int x^{\frac{7}{5}}dx = \frac{x^{\frac{12}{5}}}{\frac{12}{5}} + C = \frac{5x^{\frac{12}{5}}}{12} + C$$

2) Find the definite integral below.

$$\int_1^2 3x^2 + 2dx = x^3 + 2x\Big|_1^2 = 2^3 + 2 \cdot 2 - (1 + 2) = 9$$

3) Use the table to come up with an estimate for the integral below.

$$\int_1^3 f(x)dx$$

x	$f(x)$
0	4
1	5
2	7
3	9
4	12

There are multiple possible answers.

Right Riemann Sum:

$$7 \cdot 1 + 9 \cdot 1 = 16$$

Left Riemann Sum:

$$5 \cdot 1 + 7 \cdot 1 = 12$$

Midpoint sum:

$$7 \cdot 2 = 14$$

Trapezoidal sum:

YUCK why would you do this SERIOUSLY WHY? Okay maybe because a computer could do it quickly but you're not a computer.

$$\frac{1}{2} \cdot 1 \cdot (5 + 7) + \frac{1}{2} \cdot 1 \cdot (7 + 9) = \frac{12}{2} + \frac{16}{2} = 14$$