

3.

$$\int_a^b f(x) dx = S(x)$$

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

$$\int_0^{2h} x^4 dx = h \left(\frac{1}{3} f(x_0) + \frac{4}{3} f(x_1) + \frac{1}{3} f(x_2) \right)$$

$$\left. \frac{1}{5} x^5 \right|_0^{2h} = h \left(0 + \frac{4}{3} h^4 + \frac{1}{3} (2h)^4 \right)$$

$$\frac{1}{5} (2h)^5 = h \left(\frac{4}{3} h^4 + \frac{16}{3} h^4 \right)$$

$$\frac{32}{5} h^5 \neq \frac{20}{3} h^5$$

SO, SIMPSON'S RULE HAS
DEGREE OF PRECISION 3