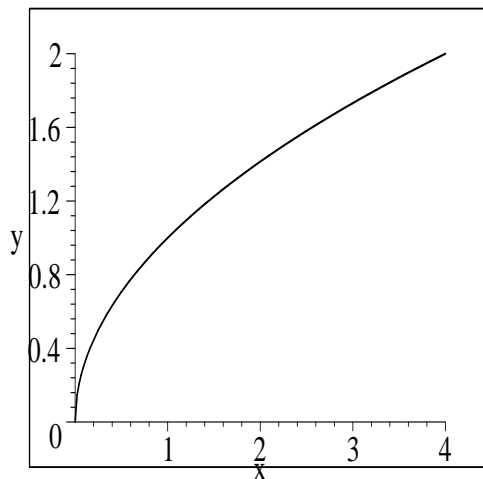


# Quiz 14

MATH 139-01 and -02  
Tuesday, November 4, 2003

Be sure to **show your work**. Unsupported answers receive no credit.

1. Draw grid lines on the graph below and use them to estimate  $\int_0^4 f(x)dx$  with  $n = 4$ .



$$y = f(x)$$

2. Consider  $\int_0^3 4x dx$ .

(a) Use your calculator to determine  $\int_0^3 4x dx$ .

(b) Use a geometric formula to determine  $\int_0^3 4x dx$ .

3. Evaluate  $\sum_{i=1}^5 i^2$ .