Solutions to Quiz 13

MATH 139-02
Tuesday, April 6, 2004

1. Express $2 \cdot 1 + 2 \cdot 2 + 2 \cdot 3 + 2 \cdot 4 + 2 \cdot 5$ in Σ-notation.

   Solution: $2 \cdot 1 + 2 \cdot 2 + 2 \cdot 3 + 2 \cdot 4 + 2 \cdot 5 = \sum_{i=1}^{5} 2i$.

2. Evaluate $\sum_{i=1}^{4} i^3$.

   Solution: $\sum_{i=1}^{4} i^3 = 1^3 + 2^3 + 3^3 + 4^3 = 100$.

3. Use the following table to estimate $\int_{10}^{26} f(x)dx$.

x	10	14	18	22	26
$f(x)$	100	88	72	50	28

   Solution: Left-hand sum: $\int_{10}^{26} f(x)dx \approx 4(100 + 88 + 72 + 50) = 1240$. Right-hand sum: $\int_{10}^{26} f(x)dx \approx 4(88 + 72 + 50 + 28) = 952$. The average of these is 1096.