

# 9-4 Standardized Test Prep

## Arithmetic Series

### Multiple Choice

For Exercises 1–6, choose the correct letter.

1. What is the sum of the odd integers 1 to 99?

- (A) 2450      (B) 2500      (C) 2550      (D) 4950

2. Which of the following is an infinite series?

- (F) 3, 8, 13, 18, 23      (H) 3 + 8 + 13 + 18 + 23 + ...  
 (G) 3 + 8 + 13 + 18 + 23      (I) 3, 8, 13, 18, 23, ...

3. The high school choir is participating in a fundraising sales contest. The choir will receive a bonus if they make 20 sales in their first week and improve their sales by 3 in every subsequent week. What is the minimum number of sales the choir could make in the first 12 weeks to qualify for the bonus?

- (A) 13      (B) 53      (C) 438      (D) 5015

4. What is summation notation for the series  $5 + 7 + 9 + \cdots + 105$ ?

- (F)  $\sum_{n=1}^{51} (2n + 3)$       (G)  $\sum_{n=1}^{51} (n + 3)$       (H)  $\sum_{n=1}^{50} (2n + 3)$       (I)  $\sum_{n=7}^{51} (n + 3)$

5. What is the upper limit of the summation  $\sum_{n=1}^{100} (n - 2)$ ?

- (A) 1      (B) 2      (C) 98      (D) 100

6. What is the sum of the series  $\sum_{n=1}^{30} (2n + 2)$ ?

- (F) 62      (G) 66      (H) 990      (I) 1980

### Short Response

7. What is the sum of the finite arithmetic series  $2 + 4 + 6 + \cdots + 50$ ?  
 Show your work.