

1. Write the series in  $\sum$  notation.

a)  $2 + 5 + 10 + 17 + 26 + 37$

b)  $\frac{1}{4} - \frac{1}{9} + \frac{1}{16} - \frac{1}{25} + \dots$

2. -296 is which term of the sequence  $7, 4, 1, \dots$ ?

3. Find a rule for the  $n$ th term, in terms of  $x$ , for the sequence  $2x + 1, 3x + 3, 4x + 5, \dots$

4. Arithmetic means are terms in an arithmetic sequence between two given terms. Insert 5 arithmetic means between 2 and 62.

5. Use an arithmetic sequence to find the number of multiples of 7 between 50 and 500.

6. Write the series  $10 + 12 + 14 + \dots + 50$  in summation notation.

7. Find the sum of the series  $82 + 79 + 76 + \dots + 46$ .

8. Find the first 3 terms of an arithmetic sequence where  $a_{25} = -151$  and  $S_{25} = -1975$ .

9. Find the sum of the positive 3-digit integers divisible by 6.

10. Find a formula, in terms of  $n$ , for the sum of the first  $n$  odd counting numbers.