

# Handout: World Series of Series- Answers

1. Find the sum:  $\sum_{n=0}^5 (2n - 4)$

6

2. Find the sum:  $\sum_{n=1}^7 2$

14

3. Find the sum:  $\sum_{n=0}^4 (2n + 8)$

60

4. Find the sum:  $\sum_{n=0}^2 5 \left(\frac{1}{5}\right)^n$

$\frac{31}{5}$

5. Write  $\sum_{n=1}^5 (7n - 1)$  as a sum of its terms.

$6 + 13 + 20 + 27 + 34$

6. Write  $\sum_{n=0}^3 2 \left(\frac{1}{4}\right)^n$  as a sum of its terms.

$2 + \frac{1}{2} + \frac{1}{8} + \frac{1}{32}$

7. If  $\sum_{n=0}^x n^2 = 30$ , what's the value of  $x$ ?

$x = 4$

8. If  $\sum_{n=0}^x 3 \left(\frac{1}{4}\right)^n = \frac{63}{64}$ , what's the value of  $x$ ?

$x = 3$

9. Write the series using sigma notation:  
 $1 + 5 + 25 + 125 + 625$ .

$\sum_{n=1}^5 5^{n-1}$  or  $\sum_{n=0}^4 5^n$

10. Write the series using sigma notation:  
 $\frac{1}{3} + \frac{2}{5} + \frac{3}{7} + \frac{4}{9}$ .

$\sum_{n=1}^4 \frac{n}{2n+1}$