Handout: World Series of Series- Answers

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

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

6

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

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

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

x = 4

14

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

60

x = 3

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

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

 $\frac{31}{5}$

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

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

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

$$6 + 13 + 20 + 27 + 34$$

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

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

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