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Date \_\_\_\_\_  
Algebra II

## Evaluating Summations

1. What is the value of  $\sum_{k=0}^2 3(2)^k$ ?

$$3(2)^0 + 3(2)^1 + 3(2)^2$$
$$3 + 6 + 12$$
$$\textcircled{21}$$

2. What is the value of  $\sum_{k=1}^3 (2-k)^2$ ?

$$(2-1)^2 + (2-2)^2 + (2-3)^2$$
$$1 + 0 + 1$$
$$\textcircled{2}$$

3. What is the value of  $\sum_{n=2}^6 \frac{n}{2}$ ?

$$\frac{2}{2} + \frac{3}{2} + \frac{4}{2} + \frac{5}{2} + \frac{6}{2}$$
$$\frac{20}{2}$$
$$\textcircled{10}$$

4. What is the value of the expression  $\sum_{n=0}^2 n^2 + 2^n$ ?

$$0^2 + 2^0 + 1^2 + 2^1 + 2^2 + 2^2$$
$$1 + 3 + 8$$
$$\textcircled{12}$$

5. Evaluate:  $\sum_{n=1}^3 n^4 - n$

$$(1)^4 - 1 + (2)^4 - 2 + (3)^4 - 3$$

$$0 + 14 + 78$$

$$\textcircled{92}$$

6. Evaluate:  $\sum_{n=4}^7 \frac{1}{2} n^2 - 1$

$$\frac{1}{2}(4)^2 - 1 + \frac{1}{2}(5)^2 - 1 + \frac{1}{2}(6)^2 - 1 + \frac{1}{2}(7)^2 - 1$$

$$7 + 11.5 + 17 + 23.5$$

$$\textcircled{59}$$

7. Evaluate:  $\sum_{k=1}^5 k^3 - 1$

$$(1)^3 - 1 + (2)^3 - 1 + (3)^3 - 1 + (4)^3 - 1 + (5)^3 - 1$$

$$0 + 7 + 26 + 63 + 124$$

$$\textcircled{220}$$

8. Evaluate:  $\sum_{x=2}^4 x^2 - 5$

$$(2)^2 - 5 + (3)^2 - 5 + (4)^2 - 5$$

$$-1 + 4 + 11$$

$$\textcircled{14}$$