F.BF.B.6: Sigma Notation 1

1 What is the value of $\sum_{m=2}^{5}(m^2-1)$?

1) 58
2) 54
3) 53
4) 50

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

1) 1
2) 2
3) 3
4) 0

3 The value of the expression $\sum_{r=3}^{5}(-r^2+r)$ is

1) –38
2) –12
3) 26
4) 62

4 What is the value of $\sum_{m=1}^{3}(2m+1)^{m-1}$?

1) 15
2) 55
3) 57
4) 245

5 The value of the expression $2\sum_{n=0}^{2}(n^2+2^n)$ is

1) 12
2) 22
3) 24
4) 26

6 Evaluate: $\sum_{k=3}^{6}\frac{1}{2}k^2$

7 Compute: $3\sum_{k=1}^{4}k^2$

8 Evaluate: $\frac{1}{2}\sum_{x=2}^{5}x^2$.

9 Evaluate: $\sum_{k=0}^{3}(k^2+1)$

10 Evaluate: $\sum_{k=2}^{4}(k^2-10)$

11 Evaluate: $\sum_{x=1}^{4}(x^2-3)$

12 Evaluate: $3\sum_{x=2}^{4}(x^2-5)$

13 Evaluate: $\sum_{k=2}^{4}(4-k^2)$

14 Evaluate: $\sum_{k=2}^{4}(k^3+1)$

15 Evaluate: $10+\sum_{n=1}^{5}(n^3-1)$

16 Evaluate: $\sum_{n=1}^{5}(n^2+n)$

17 Evaluate: $\sum_{k=2}^{4}k^2-k$

18 Evaluate: $\sum_{n=1}^{3}(-n^4-n)$

19 Evaluate: $\sum_{k=5}^{7}(k-2)^2$

20 Evaluate: $\sum_{k=0}^{3}(3k-2)^2$

21 Evaluate: $\sum_{k=1}^{4}(k+2)^3$

22 Evaluate: $\frac{2}{3}\sum_{a=1}^{4}(a+1)^2$

23 Evaluate: $\frac{1}{3}\sum_{k=2}^{4}|k-5|$

24 Evaluate: $\sum_{k=1}^{3}\frac{6}{k}$

25 Find the value of $\sum_{k=1}^{4}\frac{12}{k}$

26 Evaluate: $\sum_{r=1}^{3}r^{(r-1)}$

F.BF.B.6: Sigma Notation 1
Answer Section

1 ANS: 4

m	m^2-1	
2	2^2-1	3
3	3^2-1	8
4	4^2-1	15
5	5^2-1	24
Σ		50

REF: 060201b

2 ANS: 2

k	$(2-k)^2$	
1	$(2-1)^2$	1
2	$(2-2)^2$	0
3	$(2-3)^2$	1
Σ		2

REF: 060903b

3 ANS: 1

n	3	4	5	Σ
$-r^2+r$	$-3^2+3=-6$	$-4^2+4=-12$	$-5^2+5=-20$	-38

REF: 061118a2

4 ANS: 2

m	$(2m+1)^{m-1}$		
1	$(2(1)+1)^{1-1}$	3^0	1
2	$(2(2)+1)^{2-1}$	5^1	5
3	$(2(3)+1)^{3-1}$	7^2	49
Σ			55

REF: 060117b

5 ANS: 3

n	0	1	2	Σ
n^2+2^n	$0^2+2^0=1$	$1^2+2^1=3$	$2^2+2^2=8$	12

$2 \times 12 = 24$

REF: fall0911a2

6 ANS:
43

REF: 080209siii

7 ANS:
90

REF: 068406siii

8 ANS:
27

REF: 068906siii

9 ANS:
18

REF: 088604siii

10 ANS:
–1

REF: 018704siii

11 ANS:
18

REF: 089807siii

12 ANS:

x	$x^2 - 5$	
2	$2^2 - 5$	-1
3	$3^2 - 5$	4
4	$4^2 - 5$	11
Σ		14

$3 \times 14 = 42$

REF: 080823b

13 ANS:
–17

REF: 089010siii

14 ANS:
102

REF: 088905siii

15 ANS:
230. $10 + (1^3 - 1) + (2^3 - 1) + (3^3 - 1) + (4^3 - 1) + (5^3 - 1) = 10 + 0 + 7 + 26 + 63 + 124 = 230$

REF: 011131a2

16 ANS:

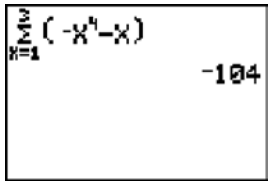
n	n^2+n	
1	1^2+1	2
2	2^2+2	6
3	3^2+3	12
4	4^2+4	20
5	5^2+5	30
Σ		70

REF: 080521b

17 ANS:
20

REF: 019505siii

18 ANS:



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REF: 011230a2

19 ANS:
50

REF: 068006siii

20 ANS:
70

REF: 060114siii

21 ANS:
432

REF: 019806siii

22 ANS:
36

REF: 069511siii

23 ANS:
2

REF: 010414siii

24 ANS:
11

REF: 019004siii

25 ANS:
25

REF: 088504siii

26 ANS:
12

REF: 069611siii