Problems for Gateway #1: Evaluating the Sum of a Finite Non-Geometric Series

1.   The sum of the series: $1 + 2 + 3 + 4 + \ldots + n + \ldots + 100$ is equal to

(a)   5050

(b)   101

(c)   2525

(d)   110

2.   The sum of the series $2 + 4 + 6 + \ldots + 2n + \ldots + 100$ is equal to

(a)   112

(b)   2550

(c)   1250

(d)   1275

3.   The sum of the series: $1 + \dfrac{1}{2} + \dfrac{1}{3} + \ldots + \dfrac{1}{n} + \ldots + \dfrac{1}{10}$ is approximately equal to:

(a)   10

(b)   5.78

(c)   1

(d)   2.93

4.   The sum of the series: $1 - 2 + 3 - 4 + \ldots + (-1)^{n+1}{\cdot}n + \ldots - 10$ is equal to

(a)   −5

(b)   10

(c)   5

(d)   55

5. The sum of the series: $1 + \dfrac{1}{2} + \dfrac{1}{6} + \dfrac{1}{24} + \dfrac{1}{120}$ is approximately equal to

(a) 1

(b) 2

(c) 5

(d) 9

6. The sum of the series: $1 + 3 + 5 + \ldots + (2n + 1) + \ldots + 99$ is equal to

(a) 2500

(b) 5050

(c) 2525

(d) 2350

7. The sum of the series $\dfrac{1}{2} + \dfrac{1}{4} + \dfrac{1}{6} + \ldots + \dfrac{1}{2 \cdot n} + \ldots + \dfrac{1}{100}$ is approximately equal to

(a) 12

(b) 2.55

(c) 2.2496

(d) 1.5

8. The sum of the series: $1 + 4 + 9 + \ldots + n^2 + \ldots + 100$ is approximately equal to:

(a) 10

(b) 78.5

(c) 385

(d) 293

9. The sum of the series: $1 + 4 + 9 + \dots + n^2 + \dots + 400$ is equal to

(a)   −10

(b)   2870

(c)   500

(d)   385

10. The sum of the series: $\dfrac{1}{10} + \dfrac{1}{10} + \dots + \dfrac{1}{10} + \dots + \dfrac{1}{10}$ is approximately equal to

(a)   1

(b)   0.9

(c)   5

(d)   The sum cannot be determined with the information given.

Answers

1.	A	2.	B	3.	D	4.	A	5.	B	6.	A
7.	C	8.	D	9.	B	10.	D				