

Grade 11 Sequences & Series Unit Test

Name _____ Date _____ Score _____ / 16

Part A • Arithmetic Sequences

Read each question carefully. They're not all the same kind of question.

01 What is the general term of $-4, -1, 2, 5, \dots$?

Answer: _____

02 What is t_{28} in $-1, 2, 5, 8, \dots$?

Answer: _____

03 What is a recursive formula for $-6, -9, -12, -15, \dots$?

Answer: _____

04 The sequence $4, _, _, -8$ is arithmetic. What are the missing terms?

Answer: _____

Part B • Geometric Sequences

Read each question carefully. They're not all the same kind of question.

05 What is t_6 in $4, -8, 16, -32, \dots$?

Answer: _____

06 What is a recursive formula for $2, -6, 18, -54, \dots$?

Answer: _____

Grade 11 Sequences & Series Unit Test

Part B · Geometric Sequences (continued)

07 What is the general term of 7, 28, 112, 448, ...?

Answer: _____

08 The sequence 3, __, __, -24 is geometric. What are the missing terms?

Answer: _____

Part C · Sequences

Read each question carefully. They're not all the same kind of question.

09 What is t_{18} in 18, 24, 30, 36, ...?

Answer: _____

10 What is a recursive formula for 13, 16, 19, 22, ...?

Answer: _____

11 The sequence 12, __, __, 6 is arithmetic. What are the missing terms?

Answer: _____

12 What is the general term of -8, 0, 8, 16, ...?

Answer: _____

Grade 11 Sequences & Series Unit Test

Part D · Series

13 Find the sum of the first 6 terms: 11, 33, 99, ... (geometric, $r = 3$) =

Answer: _____

14 Find the sum of the first 7 terms: 3, 5, 7, ... (arithmetic, $d = 2$) =

Answer: _____

15 Find the sum of the first 6 terms: 11, 17, 23, ... (arithmetic, $d = 6$) =

Answer: _____

16 Find the sum of the first 6 terms: 1, 3, 5, ... (arithmetic, $d = 2$) =

Answer: _____

Grade 11 Sequences & Series Unit Test (Answer Key)

Part A · Arithmetic Sequences

Read each question carefully. They're not all the same kind of question.

01 What is the general term of $-4, -1, 2, 5, \dots$?

$$t_n = 3n - 7$$

02 What is t_{28} in $-1, 2, 5, 8, \dots$?

80

03 What is a recursive formula for $-6, -9, -12, -15, \dots$?

$$t_1 = -6, t_n = t_{n-1} - 3$$

04 The sequence $4, _, _, -8$ is arithmetic. What are the missing terms?

0, -4

Part B · Geometric Sequences

Read each question carefully. They're not all the same kind of question.

05 What is t_6 in $4, -8, 16, -32, \dots$?

-128

06 What is a recursive formula for $2, -6, 18, -54, \dots$?

$$t_1 = 2, t_n = -3t_{n-1}$$

Grade 11 Sequences & Series Unit Test (Answer Key)

Part B • Geometric Sequences (continued)

07 What is the general term of 7, 28, 112, 448, ...?

$$t_n = 7(4)^{n-1}$$

08 The sequence 3, __, __, -24 is geometric. What are the missing terms?

-6, 12

Part C • Sequences

Read each question carefully. They're not all the same kind of question.

09 What is t_{18} in 18, 24, 30, 36, ...?

120

10 What is a recursive formula for 13, 16, 19, 22, ...?

$$t_1 = 13, t_n = t_{n-1} + 3$$

11 The sequence 12, __, __, 6 is arithmetic. What are the missing terms?

10, 8

12 What is the general term of -8, 0, 8, 16, ...?

$$t_n = 8n - 16$$

Grade 11 Sequences & Series Unit Test (Answer Key)

Part D · Series

13 Find the sum of the first 6 terms: 11, 33, 99, ... (geometric, $r = 3$) =

4004

14 Find the sum of the first 7 terms: 3, 5, 7, ... (arithmetic, $d = 2$) =

63

15 Find the sum of the first 6 terms: 11, 17, 23, ... (arithmetic, $d = 6$) =

156

16 Find the sum of the first 6 terms: 1, 3, 5, ... (arithmetic, $d = 2$) =

36