

# NAT Grade 10 Reviewer

## Mathematics

### Part 1

MULTIPLE CHOICE. Read each statement carefully and choose the letter that best corresponds to the statement. Write ONLY the letter of your answer on the space provided for at the right.

1. If 1,  $-1/2$ ,  $1/4$ ,  $-1/8$  is a geometric sequence, what is the common ratio?

- a.  $1/2$
- b.  $-1/2$
- c.  $1/4$
- d.  $-1/4$

Answer: b.  $-1/2$

2. What is the twentieth term of the arithmetic sequence 21, 18, 15, 12, ... ?

- a. -39
- b. -36
- c. 1
- d. 78

Answer: a. -39

3. A display of cans on a grocery shelf consists of 20 cans on the bottom, 18 cans in the next row, and so on in an arithmetic sequence, until the top row has 4 cans. How many cans, in total, are in the display?

- a. 100
- b. 108
- c. 116
- d. 124

Answer: b. 108

4. The following are examples of Fibonacci sequence EXCEPT:

- a. 0, 1, 1, 2, 3, 5
- b. 2, 3, 5, 8, 13
- c. 192, 16, 208, 224
- d. 1, 4, 7, 10, 13

Answer: d. 1, 4, 7, 10, 13

5. Which among the following is NOT a geometric sequence?

- a. 5, 10, 20, 40
- b. -11, 22, -44, 88
- c. 2, 6, 18, 54
- d. 3, 8, 13, 18

Answer: d. 3, 8, 13, 18

6. If 1,  $-\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $-\frac{1}{8}$  is a geometric sequence, what is the common ratio?

- a.  $\frac{1}{2}$
- b.  $-\frac{1}{2}$
- c.  $\frac{1}{4}$
- d.  $-\frac{1}{4}$

Answer: b.  $-\frac{1}{2}$

7. What is the sum of the first 30 terms of the arithmetic sequence 50, 45, 40, 35?

- a. -675
- b. 275
- c. 675
- d. 3675

Answer: d. 3675

8. Find the sum of the geometric sequence 3, 6, 12, 24, 48, 96.

- a. 189
- b. -189
- c. 190
- d. -190

Answer: a. 189

9. Which among the following is the harmonic sequence of a sequence 3, 8, 13, 18?

- a. -3, -8, -13, -18
- b.  $\frac{1}{3}$ ,  $\frac{1}{8}$ ,  $\frac{1}{13}$ ,  $\frac{1}{18}$
- c. 3.0, 8.0, 13.0
- d. NONE OF THE ABOVE

Answer: d. NONE OF THE ABOVE

10. What is the next term of the sequence 3, 4, 7, 11, 18, 29?

- a. 46
- b. 47
- c. 48
- d. 49

Answer: a. 46

11. Which of the following is an arithmetic sequence?

- a. 21, 18, 15,...
- b. -6, -2, 2...
- c. 4, 2, 0
- d. 80, 20, 5...

Answer: a. 21, 18, 15,...

12. Find the 27th term of the arithmetic sequence -4, -1, 2, 5, 8.

- a. 70
- b. 72
- c. 74
- d. 76

Answer: c. 74

13. QAR, RAS, SAT, TAU, \_\_\_\_\_.

- a. UAV
- b. UAT
- c. TAS
- d. TAT

Answer: a. UAV

14. What is the sum of the eleventh of the arithmetic sequence 7, 12, 17, 22, ... ?

- a. 154
- b. 295
- c. 795
- d. 1090

Answer: b. 295

15. What is the thirty-second term of the arithmetic sequence  $-12, -7, -2, 3, \dots$  ?

- a. 143
- b. 148
- c. 153
- d. 167

Answer: c. 153

16. Find the tenth term of the arithmetic sequence  $1, 6, 11, 16, \dots$

- a. 40
- b. 42
- c. 44
- d. 46

Answer: c. 46

17. What is the common difference of the sequence  $3, 11, 19, 27, 35, \dots$ ?

- a.  $-8$
- b.  $8$
- c.  $-14$
- d.  $14$

Answer: b.  $8$

18. The fifth term of an arithmetic sequence is  $11$  and the tenth term is  $41$ . What is the first term?

- a.  $-19$
- b.  $-13$
- c.  $-9$
- d.  $6$

Answer: c.  $-9$

19. What is the fiftieth term of the arithmetic sequence  $3, 7, 11, 15, \dots$ ?

- a. 53
- b. 151
- c. 199
- d. 203

Answer: c. 199

20. Which among the following is the harmonic sequence of a sequence 3, 8, 13, 18?

- a. -3, -8, -13, -18
- b.  $\frac{1}{3}$ ,  $\frac{1}{8}$ ,  $\frac{1}{13}$ , 18
- c. 3.0, 8.0, 13.0
- d. NONE OF THE ABOVE

Answer: b.  $\frac{1}{3}$ ,  $\frac{1}{8}$ ,  $\frac{1}{13}$ , 18

21. If 1,  $-\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $-\frac{1}{8}$  is a geometric sequence, what is the common ratio?

- a.  $\frac{1}{2}$
- b.  $-\frac{1}{2}$
- c.  $\frac{1}{4}$
- d.  $-\frac{1}{4}$

Answer: b.  $-\frac{1}{2}$

22. What is the fiftieth term of the arithmetic sequence 3, 7, 11, 15...?

- a. 53
- b. 151
- c. 199
- d. 203

Answer: c. 199

23. What is the tenth term of the geometric sequence 1, 2, 4, 8, ... ?

- a. 512
- b. 256
- c. 1024
- d. 128

Answer: a. 512

24. What is the sum of the first 30 terms of the arithmetic sequence 50, 45, 40, 35?

- a. -675
- b. 275
- c. 675
- d. 3675

Answer: d. 3675

25. Find the 7th term of the sequence 2, 6, 18, 54, ...

- a. 4374
- b. 5832
- c. 6561
- d. 8748

Answer: c. 6561

26. What is the sum of the first 30 terms of the arithmetic sequence 50, 45, 40, 35?

- a. -675
- b. 275
- c. 675
- d. 3675

Answer: d. 3675

27. If 1,  $-1/2$ ,  $1/4$ ,  $-1/8$  is a geometric sequence, what is the common ratio?

- a.  $1/2$
- b.  $-1/2$
- c.  $1/4$
- d.  $-1/4$

Answer: b.  $-1/2$

28. What is the sum of the eleventh of the arithmetic sequence 7, 12, 17, 22, ... ?

- a. 154
- b. 295
- c. 795
- d. 1090

Answer: b. 295

29. The following are examples of Fibonacci sequence EXCEPT:

- a. 0, 1, 1, 2, 3, 5
- b. 2, 3, 5, 8, 13
- c. 192, 16, 208, 224
- d. 1, 4, 7, 10, 13

Answer: d. 1, 4, 7, 10, 13

30. What is the 12th term of the geometric sequence 5, 10, 20, 40, ... ?

a. 20480

b. 10240

c. 5120

d. 40960

Answer: b. 10240