

Arithmetic Progressions Quiz

1. What is the common difference of the AP: 2, 5, 8, 11...?
A) 2
B) 3
C) 4
D) 5
2. Which term of the AP: 3, 8, 13, 18... is 78?
A) 14th
B) 15th
C) 16th
D) 17th
3. If the 3rd and the 9th terms of an AP are 4 and -2 respectively, what is the first term?
A) 7
B) 8
C) 9
D) 10
4. What is the sum of the first 20 terms of the AP: 7, 10, 13...?
A) 610
B) 620
C) 630
D) 640
5. The sum of three numbers in AP is 21 and the product of the first and the third is 45. What are the numbers?
A) 4, 7, 10
B) 5, 7, 9
C) 6, 7, 8
D) 3, 9, 12
6. How many multiples of 4 lie between 10 and 250?
A) 59
B) 60
C) 61
D) 62
7. If the 7th term of an AP is 1 and the 11th term is -3, what is the 18th term?
A) -10
B) -9
C) -8
D) -7
8. What is the 15th term of the AP whose first term is -7 and the common difference is 0.5?
A) 0.5
B) 1
C) 1.5
D) 2
9. The three consecutive terms of an AP whose sum is 18 and the sum of whose squares is 194 are:
A) 4, 6, 8
B) 5, 6, 7
C) 3, 6, 9
D) 2, 8, 10
10. If the sum of the first n terms of an AP is given by ($S_n = 3n^2 + n$), what is the first term?

- A) 1
- B) 2
- C) 3
- D) 4

11. In an AP, if ($a_2 + a_5 = 10$) and ($a_1 + a_6 = 12$), what is (a_3)?

- A) 5
- B) 6
- C) 7
- D) 8

12. What is the common difference of the AP where ($a_3 = 5$) and ($a_8 = 20$)?

- A) 3
- B) 4
- C) 5
- D) 15

13. Which term of the AP: 12, 17, 22... will be 112?

- A) 18th
- B) 19th
- C) 20th
- D) 21st

14. The 4th term of an AP is 10 and the 7th term is 16. What is the 1st term?

- A) 2
- B) 3
- C) 4
- D) 5

15. What is the sum of the first 15 terms of the AP: 3, 5, 7, 9...?

- A) 165
- B) 180
- C) 195
- D) 210

16. If the first term of an AP is 5 and the last term is 45, how many terms are there if the common difference is 2?

- A) 20
- B) 21
- C) 22
- D) 23

17. What is the sum of all the odd numbers between 0 and 50?

- A) 625
- B) 650
- C) 675
- D) 700

18. The sum of the 4th and 8th terms of an AP is 24 and the sum of the 6th and 10th terms is 32. What is the first term?

- A) 2
- B) 3
- C) 4
- D) 5

19. If the common difference of an AP is -3, what is the 10th term given that the first term is 4?

- A) -22
- B) -26
- C) -28
- D) -32

20. What is the common difference of the AP formed by the squares of the natural numbers?

- A) 1
- B) 2
- C) 3
- D) Not constant

Here is the answer key for the Arithmetic Progressions quiz:

- 1. B) 3
- 2. D) 17th
- 3. A) 7
- 4. C) 630
- 5. B) 5, 7, 9
- 6. B) 60
- 7. D) -7
- 8. A) 0.5
- 9. B) 5, 6, 7
- 10. C) 3
- 11. B) 6
- 12. A) 3
- 13. C) 20th
- 14. A) 2
- 15. B) 180
- 16. B) 21
- 17. A) 625
- 18. B) 3
- 19. B) -26
- 20. D) Not constant

The common difference for the AP of squares of natural numbers is not constant because the difference between consecutive terms increases as the numbers get larger. The difference between squares of consecutive natural numbers $(n+1)^2 - n^2$ is equal to $2n + 1$, which is not constant.