

## Sequence Problems

- 1) Multiplying by  $-2$ , and adding  $3$ , if 1st term is  $-9$ , find 7th term
- 2) In Arithmetic sequences,  $a_1: 0$ ,  $a_{75}: -370$ , sum from 1st term to 75th term
- 3) In geometry sequences,  $a_1: -4$ ,  $a_9: -262144$ , sum from 1st term to 9th term
- 4)  $[-1, -4, -16, -64, -256, -1024, -4096, -16384, -65536, -262144, \dots]$  find 9th term
- 5)  $[4, 7, 10, 13, 16, 19, 22, 25, 28, 31, \dots]$  find 41th term
- 6) Multiplying by  $2$ , and adding  $-6$ , if 1st term is  $2$ , find 4th term
- 7)  $[-2, 4, 10, 16, 22, 28, 34, 40, 46, 52, \dots]$  find Common Differnece
- 8) Multiplying by  $2$ , and adding  $2$ , if 1st term is  $-18$ , find 6th term

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9)  $[1, -4, -9, -14, -19, -24, -29, -34, -39, -44, \dots]$   
find Common Difference

10)  $[2, 3, 4, 5, 6, 7, 8, 9, 10, 11, \dots]$  find which  
term 16 is.

11) Multiplying by -2, and adding 9, if 1st  
term is -9, find 6th term

12)  $a_1: -4$ , Common Ratio: 4, sum from 1st  
term to 7th term

13) In Arithmetic sequences,  $a_1: -12$ ,  $a_{54}: -118$ ,  
sum from 1st term to 54th term

14)  $[2, 0, -2, -4, -6, -8, -10, -12, -14, -16, \dots]$  find  
which term -18 is.

15) Multiplying by 3, and adding -10, if 1st  
term is -1, find 4th term

16)  $[-6, 12, -24, 48, -96, 192, -384, 768, -1536, 3072, \dots]$  find Common Ratio

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17) Multiplying by -3, and adding 0, if 1st term is -6, find 7th term

18)  $[-1, 5, -25, 125, -625, 3125, -15625, 78125, -390625, 1953125, \dots]$  find 9th term

19) Multiplying by 5, and adding 8, if 1st term is 18, find 4th term

20)  $a_1: -5$ , Common Ratio: 5, sum from 1st term to 7th term

21) In Arithmetic sequences, sum of 1st term to 99th term is 30591 and sum of 1st term to 13th term is 663 find 1st term

22)  $a_1: -1$ , Common Difference: -2, sum from 1st term to 64th term

23) In geometry sequences,  $a_1: 3$ ,  $a_7: 2187$ , sum from 1st term to 7th term

24) Multiplying by 2, and adding -5, if 1st term is -19, find 4th term

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25) Multiplying by -5, and adding -6, if 1st term is -41, find 6th term

26) In Arithmetic sequences,  $a_1: -13$ ,  $a_{99}: -895$ , sum from 1st term to 99th term

27)  $[3, 8, 13, 18, 23, 28, 33, 38, 43, 48, \dots]$  find which term 73 is.

28)  $[-7, -6, -5, -4, -3, -2, -1, 0, 1, 2, \dots]$  find Common Difference

29) Multiplying by -4, and adding 5, if 1st term is 29, find 7th term

30) Multiplying by 5, and adding -4, if 1st term is -34, find 5th term

31)  $[-4, -8, -12, -16, -20, -24, -28, -32, -36, -40, \dots]$  find which term -392 is.

32)  $a_1: -2$ , Common Ratio: 2, sum from 1st term to 8th term

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33)  $a_1: -9$ , Common Ratio:  $-1$ , sum from 1st term to 10th term

34) Multiplying by  $-3$ , and adding  $-8$ , if 1st term is  $-17$ , find 4th term

35) Multiplying by  $5$ , and adding  $-8$ , if 1st term is  $7$ , find 8th term

36)  $[1, 8, 15, 22, 29, 36, 43, 50, 57, 64, \dots]$  find Common Difference

37) Multiplying by  $3$ , and adding  $-8$ , if 1st term is  $-32$ , find 3th term

38)  $[-1, 3, -9, 27, -81, 243, -729, 2187, -6561, 19683, \dots]$  find 10th term

39) Multiplying by  $2$ , and adding  $-7$ , if 1st term is  $-3$ , find 5th term

40) In geometry sequences,  $a_1: 4$ ,  $a_9: 262144$ , sum from 1st term to 9th term

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- 41) Multiplying by 5, and adding 0, if 1st term is -25, find 3th term
- 42) In geometry sequences,  $a_1: -20$ ,  $a_7: -1280$ , sum from 1st term to 7th term
- 43) In geometry sequences,  $a_1: 1$ ,  $a_9: 1$ , sum from 1st term to 9th term
- 44)  $[6, -24, 96, -384, 1536, -6144, 24576, -98304, 393216, -1572864, \dots]$  find Common Ratio
- 45)  $[5, -5, 5, -5, 5, -5, 5, -5, 5, -5, \dots]$  find Common Ratio
- 46) Multiplying by 4, and adding 3, if 1st term is -33, find 6th term
- 47)  $a_1: -15$ , Common Difference: -6, sum from 1st term to 58th term
- 48)  $a_1: -3$ , Common Ratio: 3, sum from 1st term to 6th term

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49) Multiplying by -3, and adding 0, if 1st term is 15, find 5th term

50) In geometry sequences,  $a_1: 3$ ,  $a_9: 19683$ , sum from 1st term to 9th term

51) In Arithmetic sequences, sum of 1st term to 35th term is -735 and sum of 1st term to 90th term is -4365 find 1st term

52)  $[-1, -4, -16, -64, -256, -1024, -4096, -16384, -65536, -262144, \dots]$  find which term -4096 is.

53) Multiplying by 3, and adding 8, if 1st term is 32, find 3th term

54)  $[-4, 0, 4, 8, 12, 16, 20, 24, 28, 32, \dots]$  find 21th term

55)  $[4, 11, 18, 25, 32, 39, 46, 53, 60, 67, \dots]$  find Common Differnece

56)  $[-9, -2, 5, 12, 19, 26, 33, 40, 47, 54, \dots]$  find 38th term

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57) In Arithmetic sequences, sum of 1st term to 11th term is -99 and sum of 1st term to 47th term is -423 find 1st term

58) In Arithmetic sequences, sum of 1st term to 30th term is -2295 and sum of 1st term to 79th term is -15721 find 1st term

59)  $a_1$ : 25, Common Ratio: -5, sum from 1st term to 6th term

60) Multiplying by 2, and adding 10, if 1st term is 12, find 3th term

61) Multiplying by 2, and adding 1, if 1st term is 15, find 7th term

62) Multiplying by -5, and adding 0, if 1st term is -45, find 5th term

63) [4, 2, 0, -2, -4, -6, -8, -10, -12, -14, ...] find which term -104 is.

64) In geometry sequences,  $a_1$ : -2,  $a_{10}$ : -1024, sum from 1st term to 10th term



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65) [6, 9, 12, 15, 18, 21, 24, 27, 30, 33, ...] find 52th term

66) [-9, -2, 5, 12, 19, 26, 33, 40, 47, 54, ...] find which term 320 is.

67) In Arithmetic sequences, sum of 1st term to 14th term is 21 and sum of 1st term to 25th term is -100 find 1st term

68)  $a_1$ : -4, Common Ratio: 2, sum from 1st term to 7th term

69) Multiplying by 2, and adding -4, if 1st term is -20, find 3th term

70) Multiplying by 2, and adding -8, if 1st term is -4, find 5th term

71) [-9, 0, 9, 18, 27, 36, 45, 54, 63, 72, ...] find which term 252 is.

72) In Arithmetic sequences,  $a_1$ : -5,  $a_{11}$ : -45, sum from 1st term to 11th term

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73) [1, 2, 4, 8, 16, 32, 64, 128, 256, 512, ...] find Common Ratio

74) [-1, -3, -9, -27, -81, -243, -729, -2187, -6561, -19683, ...] find Common Ratio

75) Multiplying by 4, and adding 9, if 1st term is 5, find 6th term

76) [-6, 30, -150, 750, -3750, 18750, -93750, 468750, -2343750, 11718750, ...] find 7th term

77) Multiplying by -3, and adding -4, if 1st term is 17, find 7th term

78) [-6, -11, -16, -21, -26, -31, -36, -41, -46, -51, ...] find which term -151 is.

79) [-1, 5, -25, 125, -625, 3125, -15625, 78125, -390625, 1953125, ...] find Common Ratio

80) Multiplying by 2, and adding -1, if 1st term is -3, find 4th term

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81) Multiplying by  $-4$ , and adding  $-5$ , if 1st term is  $-25$ , find 6th term

82) Multiplying by  $4$ , and adding  $-3$ , if 1st term is  $-43$ , find 4th term

83)  $[1, 3, 9, 27, 81, 243, 729, 2187, 6561, 19683, \dots]$  find which term  $6561$  is.

84) Multiplying by  $2$ , and adding  $-5$ , if 1st term is  $-1$ , find 6th term

85) In geometry sequences,  $a_1: -35$ ,  $a_7: -546875$ , sum from 1st term to 7th term

86)  $[-1, 1, -1, 1, -1, 1, -1, 1, -1, 1, \dots]$  find 7th term

87)  $a_1: 27$ , Common Ratio:  $-3$ , sum from 1st term to 8th term

88) Multiplying by  $3$ , and adding  $-2$ , if 1st term is  $-5$ , find 6th term

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89) In Arithmetic sequences, sum of 1st term to 94th term is -40655 and sum of 1st term to 45th term is -9540 find 1st term

90) Multiplying by 5, and adding -4, if 1st term is -19, find 7th term

91) [5, -2, -9, -16, -23, -30, -37, -44, -51, -58, ...] find which term -653 is.

92) [-5, 5, -5, 5, -5, 5, -5, 5, -5, 5, ...] find Common Ratio

93) [-5, -3, -1, 1, 3, 5, 7, 9, 11, 13, ...] find 85th term

94) Multiplying by 2, and adding 2, if 1st term is -2, find 5th term

95) [10, 4, -2, -8, -14, -20, -26, -32, -38, -44, ...] find which term -80 is.

96) Multiplying by -3, and adding -8, if 1st term is -23, find 3th term

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97)  $[-1, 3, -9, 27, -81, 243, -729, 2187, -6561, 19683, \dots]$  find which term -6561 is.

98)  $[2, -5, -12, -19, -26, -33, -40, -47, -54, -61, \dots]$  find Common Difference

99)  $[7, 13, 19, 25, 31, 37, 43, 49, 55, 61, \dots]$  find Common Difference

100)  $[-4, -12, -20, -28, -36, -44, -52, -60, -68, -76, \dots]$  find 76th term