YEAR 11 MATHS

Arithmetic & Geometric Sequences

Find terms, rules and sums of sequences

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Name: _____ **Date:** _____ **Score:** _____ / 12

Arithmetic: $t_n = a + (n-1)d$, $S_n = \frac{n}{2} \times (2a + (n-1)d)$. Geometric: $t_n = ar^{n-1}$, $S_n = a(r^n - 1)/(r - 1)$.

1. Arithmetic: $a = 5$, $d = 3$. $t_{10} =$ _____
2. Arithmetic: $a = 40$, $d = -4$. $t_8 =$ _____
3. Arithmetic: $a = 2.5$, $d = 0.5$. $t_{15} =$ _____
4. Arithmetic: $a = 3$, $d = 4$. Sum of the first 20 terms $S =$ _____
5. Arithmetic: $a = 100$, $d = -5$. Sum of the first 12 terms $S =$ _____
6. Geometric: $a = 2$, $r = 3$. $t_5 =$ _____
7. Geometric: $a = 64$, $r = 1/2$. $t_7 =$ _____
8. Geometric: $a = 5$, $r = -2$. $t_6 =$ _____
9. Geometric: $a = 3$, $r = 2$. Sum of the first 6 terms $S =$ _____
10. Geometric: $a = 1$, $r = 3$. Sum of the first 5 terms $S =$ _____
11. Sequence 7, 11, 15, 19, ... Rule for the nth term $t_n =$ _____
12. Sequence 3, 6, 12, 24, ... Rule for the nth term $t_n =$ _____

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Arithmetic & Geometric Sequences

Find terms, rules and sums of sequences

Arithmetic: $t = a + (n-1)d$, $S = \frac{n}{2} \times (2a + (n-1)d)$. Geometric: $t = ar^{1}$, $S = a(r-1)/(r-1)$.

1. 32

2. 12

3. 9.5

4. 820

5. 870

6. 162

7. 1

8. −160

9. 189

10. 121

11. $4n + 3$

12. $3 \times 2^{n-1}$

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