

1. Find the 24<sup>th</sup> term in the sequence for which  $a = -27$  and  $d = 3$ .
2. Find  $n$  for the sequence for which  $a_n = 27, a_1 = -12$ , and  $d = 3$ .
3. Find  $d$  for the sequence for which  $a = -12$  and  $a_{23} = 32$ .
4. Find the first term in the sequence for which  $d = -3$  and  $a_6 = 5$ .
5. Find the first term in the sequence for which  $a_4 = -21$  and  $a_7 = -3$ .
6. Find the sixth term in the sequence  $-3 + \sqrt{2}, 0, 3 - \sqrt{2}, \dots$
7. Find the 45<sup>th</sup> term in the sequence  $-17, -11, -5, \dots$
8. Form a sequence that has one arithmetic mean between 35 and 45.
9. Find the sum of the first 13 terms in the series:  $-5 + 1 + 7 + \dots + 43$ .

1. The first term of a geometric sequence is  $-4$ , and the common ratio is  $\frac{3}{4}$ . Find the next four terms.
2. The first term of a geometric sequence is  $12$ , and the common ratio is  $-\frac{3}{2}$ . Find the next four terms.
3. Find the ninth term of the geometric sequence  $\sqrt{3}, -3, 3\sqrt{3}, \dots$
4. Find the fifth term of the geometric sequence  $20, 0.2, 0.002, \dots$
5. Find the first term of the geometric sequence for which  $a_5 = 64\sqrt{2}$  and  $r = \sqrt{2}$ .
6. Find the first three terms of the geometric sequence for which  $a_4 = 8$  and  $r = 4$ .
7. Form a sequence that has one geometric mean between  $\frac{1}{9}$  and  $3$ .
8. Find the sum of the first eight terms of the series  $\frac{3}{4} + \frac{9}{20} + \frac{27}{100} + \dots$ .