

Section 1.1 Extra Practice

- Identify which of the following sequences are arithmetic. For each arithmetic sequence, state the values of t_1 and d , and the next three terms.
 - 4, 7, 10, 13, ...
 - 12, 7, 2, -3, ...
 - 5, 15, 45, 135, ...
 - x, x^2, x^3, x^4, \dots
 - $x, x + 2, x + 4, x + 6, \dots$
- Write the first four terms of each arithmetic sequence for the given values of t_1 and d .
 - $t_1 = -5, d = -2$
 - $t_1 = 10, d = -0.5$
 - $t_1 = 3, d = x$
 - $t_1 = \frac{7}{3}, d = \frac{1}{3}$
- Given the general term, state the first four terms of each sequence. Then, graph t_n versus n .
 - $t_n = 13 - 3n$
 - $t_n = \frac{1}{2}n + 4$
- Determine the general term and the 50th term for each arithmetic sequence.
 - 6, 10, 14, ...
 - $3, 2\frac{1}{2}, 2, \dots$
- Determine the number of terms in each finite arithmetic sequence.
 - 6, -3, 0, ..., 222
 - $3\frac{1}{4}, 3\frac{3}{4}, 4\frac{1}{4}, \dots, 15\frac{3}{4}$
- Determine the unknown terms in each arithmetic sequence.
 - 4, \square , \square , 16
 - \square , 8, \square , \square , 2
 - 20, \square , \square , \square , \square , -10
- The 20th term of an arithmetic sequence is 107, and the common difference is 5. Determine the first term, the general term, and the 40th term of this sequence.
- Use the two given terms to find t_1 , d , and t_n for each arithmetic sequence.
 - $t_{11} = 25, t_{30} = 101$
 - $t_2 = 90, t_{51} = -57$
- The terms $5 + x$, 8, and $1 + 2x$ are consecutive terms in an arithmetic sequence. Determine the value of x and state the three terms.
- The triangular shapes are made from asterisks.



Figure 1



Figure 2



Figure 3

 - How many asterisks will be in the fourth triangle? the fifth triangle?
 - Write the general term for the sequence involving the number of asterisks in the triangles.
 - How many asterisks will be in the 20th diagram?
 - Which diagram will contain 126 asterisks?

