

1. Write the recursive and explicit formulas for this sequence: 22.4, 28.8, 35.2, 41.6, ...

2. Use this information about an Arithmetic Sequence to find the 50th term of the sequence.

$$a_5 = -35 \qquad a_{11} = -11 \qquad a_{50} =$$

3. Use this information about an Arithmetic Sequence to find the number of terms in the sequence.

$$a_8 = 43 \qquad a_{17} = 70 \qquad \text{the last term is 124}$$

4. Find the missing terms in each Arithmetic Sequence.

a) 23, ____, 57

b) -8, ____, ____, ____, -156

c) 4, ____, ____, ____, ____, 139

1. Write the recursive and explicit formulas for this sequence: 22.4, 28.8, 35.2, 41.6, ...

Arithmetic Sequence $d = 6.4$

$$\begin{array}{ccc} \downarrow & \downarrow & \downarrow \\ +6.4 & +6.4 & +6.4 \end{array}$$

Recursive Formula

$$a_1 = 22.4$$

$$a_n = a_{n-1} + 6.4$$

Explicit Formula

$$a_n = 22.4 + 6.4(n-1)$$

2. Use this information about an Arithmetic Sequence to find the 50th term of the sequence.

$$a_5 = -35$$

$$a_{11} = -11$$

$$a_{50} = 145$$

$$d = \frac{-11 - (-35)}{6} = \frac{24}{6} = 4$$

$$a_1 = a_5 - 4(4) = -35 - 16 = -51$$

4 term in front of a_5

Explicit Formula

$$a_n = -51 + 4(n-1)$$

$$a_{50} = -51 + 4(50-1) = 145$$

3. Use this information about an Arithmetic Sequence to find the number of terms in the sequence.

$$a_8 = 43$$

$$a_{17} = 70$$

the last term is 124

$$d = \frac{70 - 43}{9} = \frac{27}{9} = 3$$

$$a_1 = a_8 - 7(3) = 43 - 21 = 22$$

Explicit Formula:

$$a_n = 22 + 3(n-1)$$

$$124 = 22 + 3(n-1)$$

$$102 = 3(n-1)$$

$$34 = n-1$$

$$n = 35 = \# \text{ terms}$$

4. Find the missing terms in each Arithmetic Sequence.

a) 23, 40, 57

$$\frac{57 + 23}{2} = 40$$

b) -8, -45, -82, -119, -156

$$3\text{rd term} = \frac{-8 + (-156)}{2} = -82$$

$$2\text{nd term} = \frac{-8 + (-82)}{2} = -45$$

$$4\text{th term} = \frac{-82 + (-156)}{2} = -119$$

c) 4, 31, 58, 85, 112, 139

$$d = \frac{139 - 4}{5} = \frac{135}{5} = 27$$

start at 4 and keep adding 27