

Find an equation

with  $\frac{1}{2} < x < 1$

1. Find some numbers and give formulae describing each

1.  $2, 4, 6, 8, 10, 12, 14, 16, 18, 20$

1.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$   
 $2n$  for  $n$

2.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$

3.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$

4.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$

5.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$

6.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$

7.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$

8.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$

2. Find some numbers and make this into a table and explain why the numbers are

1.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$   
2.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$   
3.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$

4.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$

5.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$

6.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$

7.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$

8.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$

9.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$

10.  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10$

3. Answer the following

a. What does the word "sequence" mean?

b. An important part of describing a sequence is to give the first few terms. What are the first five terms of the sequence  $2n$ ?

c. What does the word "term" mean in the context of a sequence? Give an example.

d. What is the difference between a sequence and a series?

e. Find the next two terms of the sequence  $1, 3, 5, 7, 9, \dots$ . Explain why these are the next two terms.

f. What is the next term of the sequence  $1, 2, 4, 8, 16, \dots$ ? Explain why.

g. What is the next term of the sequence  $1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, \dots$ ? Explain why.

h. What is the next term of the sequence  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, \dots$ ? Explain why.

i. What is the next term of the sequence  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, \dots$ ? Explain why.

j. What is the next term of the sequence  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, \dots$ ? Explain why.

k. What is the next term of the sequence  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, \dots$ ? Explain why.

l. What is the next term of the sequence  $1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, \dots$ ? Explain why.