Continue linear sequences

1 Write the next three terms in these linear sequences.

a) 81, 108, 135, ☐ , ☐ , ☐

b) 900, 1100, ☐ , ☐ , ☐

c) 0.2, 0.4, 0.6, 0.8, ☐ , ☐ , ☐

d) 3.22, 2.88, 2.54, ☐ , ☐ , ☐

e) 16, 12, 8, ☐ , ☐ , ☐

2 **a)** A linear sequence has a constant difference of 27 and the 3rd term is 592

Find the missing terms.

☐ , ☐ , 592 ☐ , ☐

b) A linear sequence has a constant difference of 19 and the 4th term is 101

Find the missing terms.

☐ , ☐ , ☐ , 101, ☐

c) Is there more than one possible answer to parts a) and b)?

Talk about it with a partner.

3 A linear sequence starts with 3,000 and has a constant difference of 250

Write the next four terms of the sequence if the sequence is:

a) ascending

3000, ☐ , ☐ , ☐ , ☐

b) descending

3000, ☐ , ☐ , ☐ , ☐

Is there more than one answer? Why?

_____

_____

4 **a)** A descending linear sequence has 100 as the 1st term and a constant difference of 1

Write the first five terms of the sequence.

☐ , ☐ , ☐ , ☐ , ☐

b) A descending linear sequence has 10 as the 1st term and a constant difference of 0.1

Write the first five terms of the sequence.

☐ , ☐ , ☐ , ☐ , ☐

c) What do you notice about your answers to part a) and b)?

_____

_____

5 **a)** How many linear sequences can you create starting with 59, 52 . . . ?

_____

_____

_____

b) How many linear sequences can you create that start with 59 and have a constant difference of 7?

_____

_____

_____

c) How many linear sequences can you create starting with 59?

_____

_____

_____

d) Look at a partner's answers. How many terms do you need to be able to continue a linear sequence?

6 The 5th term of a linear sequence is 60

The constant difference is 8

What is the difference between the 1st and the 10th term?

7 An ascending sequence starts with 1.6 and has a constant difference of 0.5

Find the first eight terms of the sequence.

_____

_____

What do you notice about all the numbers in the sequence?

_____

_____

Is it possible to have an integer term in this sequence? Explain your answer.

_____

_____

_____

8 How many different linear sequences can you create where the last digits are always a repeating series?

_____

_____