Year 6 Maths Mastery

Generate and Describe Linear Number Sequences

Challenge Cards

Compare

1. **Create these sequences:**

a. Start at 1, then add 4, another, 4, another 4 and so on...

b. Use all the numbers in the 4 times table, but subtract 1 each time.

2. **Compare the 2 sequences by listing the similarities and differences.**

If you finish: Share your ideas with a partner. Have they spotted something you haven't?

Create 2 new sequences for your partner to compare.

Times Tables

3. **Compare the multiples of 3 and the multiples of 9. What do you notice?**

An Apple a Day

4. **Amelia has £5 at the beginning of April. She buys an apple every day for 15p.**

a. How much money will she have left at the end of the first week?

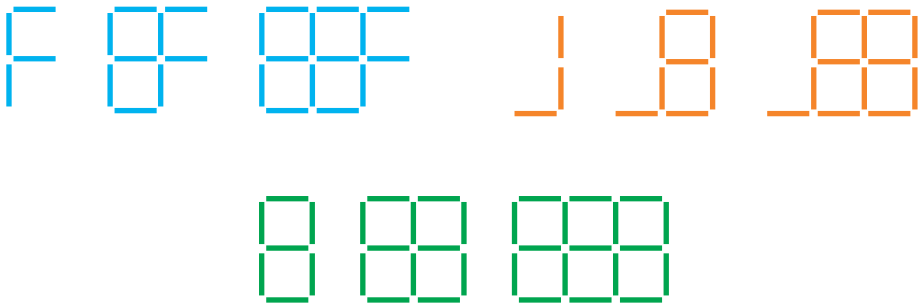
b. How much money will she have left at the end of the month?

c. Write a sequence generating rule for working out how much money she will have left at the end of any day in April.

If you finish: Share your ideas with a partner. Then challenge them to a similar problem.

Stick Sequences

5. Here are 3 stick sequences:



a. Draw the next 2 patterns for each sequence.

b. What is the relationship between the 3 sequences?

Answers

1a. 1, 5, 9, 13, 17, 21, 25, 29...

1b. 3, 7, 11, 15, 19, 23, 27, 31...

2. Similarities: count in 4s; odd numbers; units pattern is 1, 5, 9, 3, 7.

Differences: One starts with 1, the other with 3; no numbers in both.

Answers

3. 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39...

9, 18, 27, 36, 45, 54, 63, 72, 81, 90, 99, 108...

- All multiples of 3.
- Every 3rd number in multiples of 3 is a multiple of 9.
- Pattern is: odd, even, odd, even.
- Ones in each pattern use all digits from 0–9.
- Digital roots of multiples of 3 go 3, 6, 9 whereas digital roots for multiples of 9 are always 9.

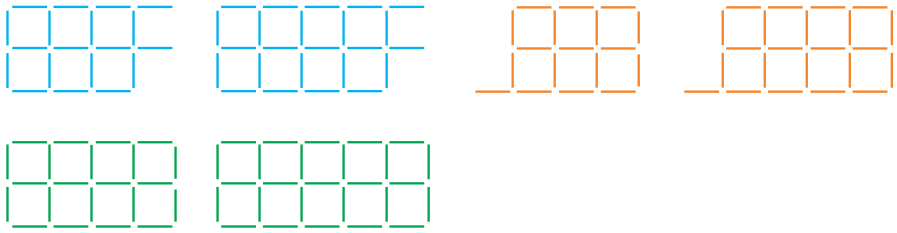
Answers

4a. £3.95.

4b. 50p.

4c. £5 – (£0.15 x date).

5a.



5b. Blue and red combine to make green.