

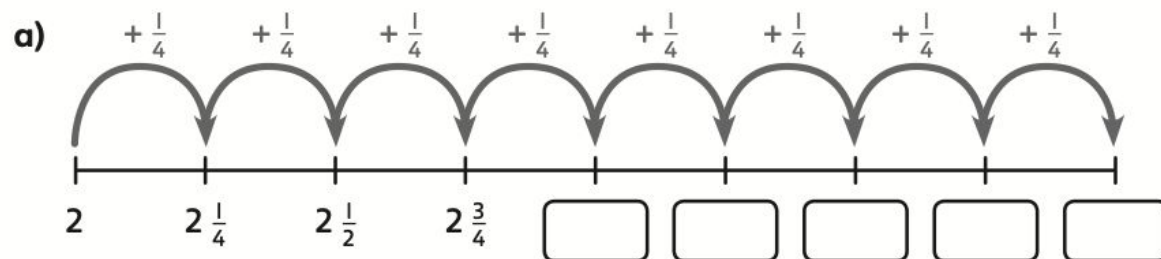
Use the counting stick to count up and down in these fractions.



- Start at 0 and count up in steps of $\frac{1}{4}$
- Start at 4 and count down in steps of $\frac{1}{3}$
- Start at 1 and count up in steps of $\frac{2}{3}$

Can you count in both improper fractions and mixed numbers?

3 Continue each sequence.



Complete the sequences.

$$\frac{3}{4}, \frac{\square}{\square}, 1\frac{3}{4}, 2\frac{1}{4}$$

$$\frac{\square}{\square}, 3\frac{1}{3}, \frac{\square}{\square}, 2\frac{2}{3}$$

$$\frac{\square}{\square}, 5\frac{1}{2}, 5\frac{7}{10}, 5\frac{9}{10}$$

$$\frac{3}{5}, \frac{\square}{\square}, \frac{\square}{\square}, 3$$

Three children are counting in quarters.

Whitney



$$\frac{1}{4}, \frac{2}{4}, \frac{3}{4}, \frac{4}{4}, \frac{5}{4}, \frac{6}{4}, \frac{7}{4}$$

Teddy



$$\frac{1}{4}, \frac{1}{2}, \frac{3}{4}, 1, 1\frac{1}{4}, 1\frac{1}{2}, 1\frac{3}{4}$$

Eva



$$\frac{1}{4}, \frac{2}{4}, \frac{3}{4}, 1, 1\frac{1}{4}, 1\frac{2}{4}, 1\frac{3}{4}$$

Who is counting correctly?
Explain your reasons.

3 Continue the sequences.

a) $2\frac{7}{8}$, $3\frac{1}{8}$, $3\frac{3}{8}$, , ,

b) $5\frac{6}{7}$, $5\frac{3}{7}$, 5, , ,

c) $5\frac{6}{11}$, $5\frac{3}{11}$, 5, , ,

What is the same and what is different about the sequences in parts b) and c)?

Talk about it with a partner.

4 Match each sequence to its rule.

$2\frac{2}{3}$, $3\frac{1}{3}$, 4, $4\frac{2}{3}$

add three quarters

$2\frac{1}{2}$, $3\frac{1}{4}$, 4, $4\frac{3}{4}$

subtract two thirds

$4\frac{1}{3}$, $3\frac{2}{3}$, 3, $2\frac{1}{3}$

add two thirds

$4\frac{1}{4}$, $3\frac{3}{4}$, $3\frac{1}{4}$, $2\frac{3}{4}$

subtract one half

5 Teddy and Rosie are finding the missing numbers in the sequence.

3, , , , , , , , 4

a)



I think the missing fractions are sevenths because there are seven blank number cards.

Do you agree with Teddy?

Explain your answer.

b) Complete the sequence.

3, , , , , , , , 4

c)



I think one of the missing fractions is equivalent to $3\frac{1}{2}$

Is Rosie correct?

Explain how you know.

d) Which other fractions in the sequence can you find equivalent fractions for?

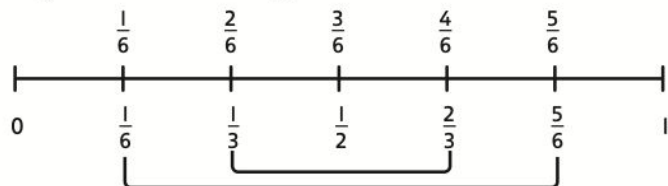
6



I am thinking of a number sequence. The 1st and 4th terms are consecutive integers.

Write the rule for Amir's sequence.

- 4** a) Reena is investigating the different ways to write a sequence increasing in sixths between 0 and 1.



She notices that she can use three different denominators and that there is a pattern.

Explain why the denominators 2 and 3 appear in this number sequence, but the denominator 4 does not.

- b) Label the fractions on this number line. What patterns do you notice in the denominators in this sequence?

