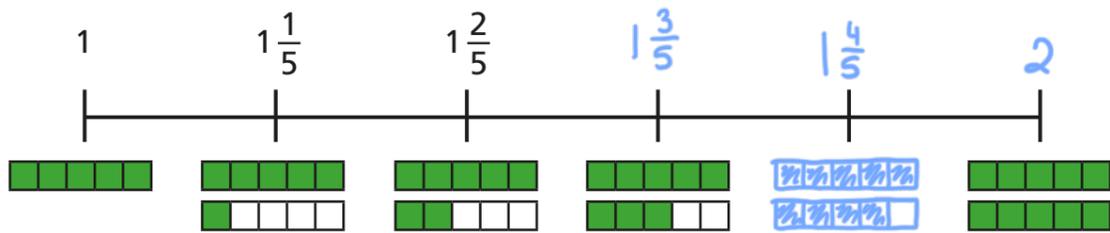# Number sequences

1 Complete the number lines.

a)

1　$1\frac{1}{5}$　$1\frac{2}{5}$　$1\frac{3}{5}$　$1\frac{4}{5}$　2

b)

1　$1\frac{2}{5}$　$1\frac{4}{5}$　$2\frac{1}{5}$　$2\frac{3}{5}$　3
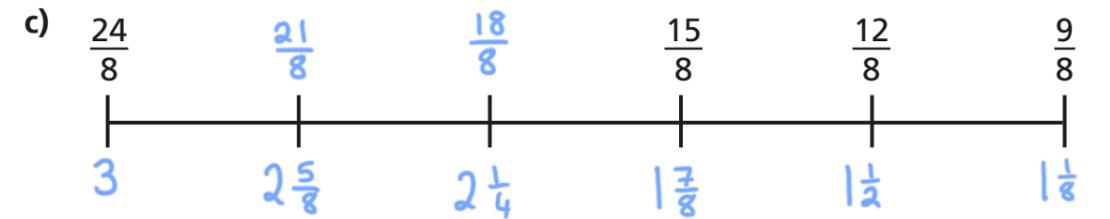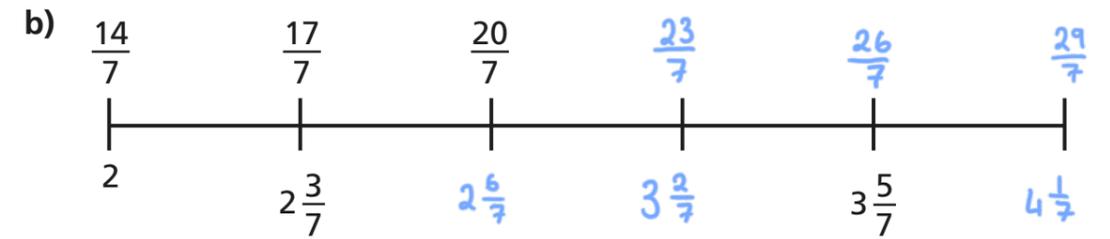
2 Complete the number lines.

a)

$\frac{4}{7}$　$\frac{5}{7}$　$\frac{6}{7}$　$\frac{7}{7}$　$\frac{8}{7}$　$\frac{9}{7}$

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

b)

$\frac{14}{7}$　$\frac{17}{7}$　$\frac{20}{7}$　$\frac{23}{7}$　$\frac{26}{7}$　$\frac{29}{7}$

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

c)

$\frac{24}{8}$　$\frac{21}{8}$　$\frac{18}{8}$　$\frac{15}{8}$　$\frac{12}{8}$　$\frac{9}{8}$

3　$2\frac{5}{8}$　$2\frac{1}{4}$　$1\frac{7}{8}$　$1\frac{1}{2}$　$1\frac{1}{8}$
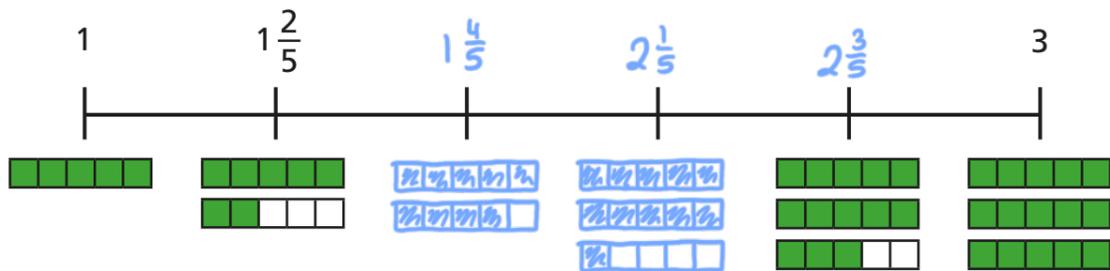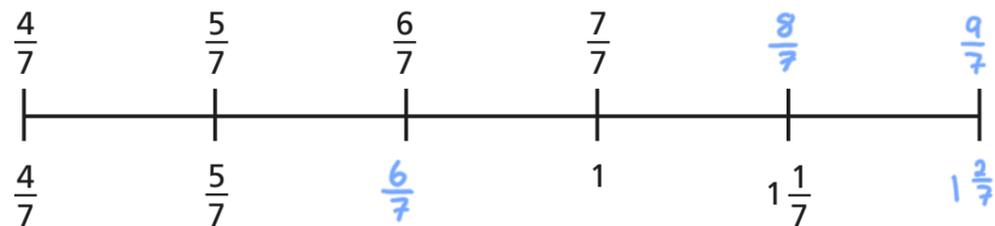
3 Continue the sequences.

a) $2\frac{7}{8}$, $3\frac{1}{8}$, $3\frac{3}{8}$, $\boxed{3\frac{5}{8}}$, $\boxed{3\frac{7}{8}}$, $\boxed{4\frac{1}{8}}$

b) $5\frac{6}{7}$, $5\frac{3}{7}$, 5, $\boxed{4\frac{4}{7}}$, $\boxed{4\frac{1}{7}}$, $\boxed{3\frac{5}{7}}$

c) $5\frac{6}{11}$, $5\frac{3}{11}$, 5, $\boxed{4\frac{8}{11}}$, $\boxed{4\frac{5}{11}}$, $\boxed{4\frac{2}{11}}$

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.

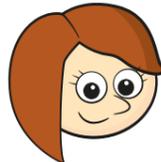3, ☐, ☐, ☐, ☐, ☐, ☐, ☐, 4

a)

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

Do you agree with Teddy? _No_

Explain your answer.

If they were sevenths there would only be 6 blank cards because $3\frac{7}{7} = 4$

b) Complete the sequence.

3, $3\frac{1}{8}$, $3\frac{2}{8}$, $3\frac{3}{8}$, $3\frac{4}{8}$, $3\frac{5}{8}$, $3\frac{6}{8}$, $3\frac{7}{8}$, 4

c)

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

Is Rosie correct? _Yes_

Explain how you know.

$\frac{4}{8}$ is equivalent to $\frac{1}{2}$ so $3\frac{4}{8}$ is equivalent to $3\frac{1}{2}$.

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.

Add one third. (Accept subtract one third)