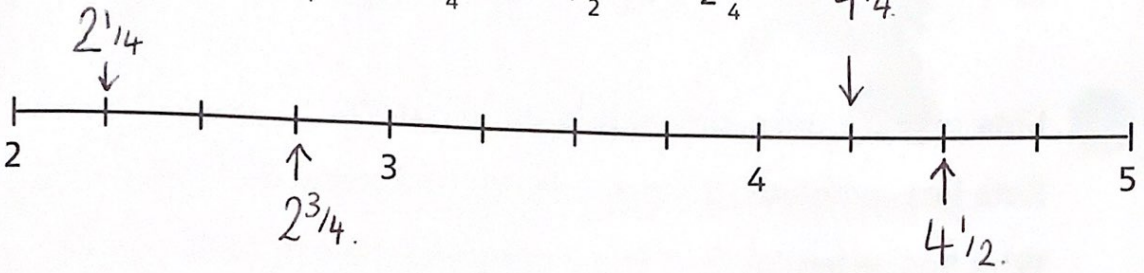
→ Textbook 5B p76

Comparing and ordering fractions 2

1 **a)** Place each fraction on the number line.

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

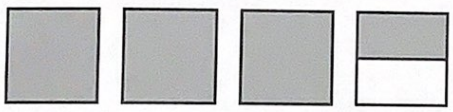


b) Write the fractions from part a) in order from smallest to greatest.

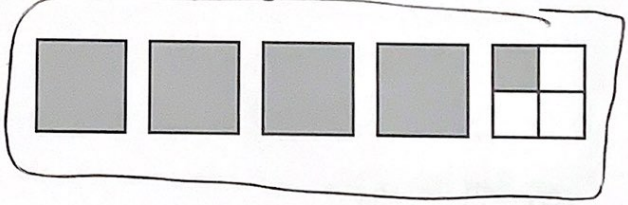
$2\frac{1}{4}$, $2\frac{3}{4}$, $4\frac{1}{4}$, $4\frac{1}{2}$

2 In each pair, circle the diagram that represents the larger number.

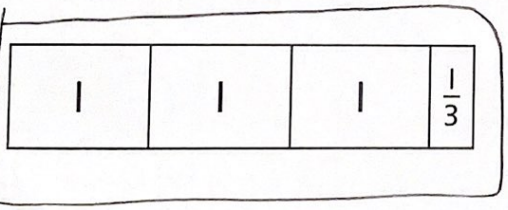
a)



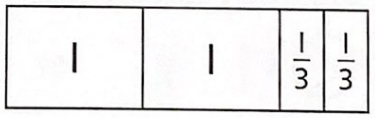
or



b) $3\frac{1}{3}$



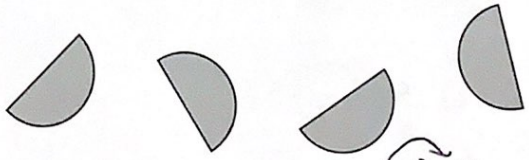
or



$2\frac{2}{3}$

c)

or



$\frac{7}{4}$

$\frac{4}{2} = \frac{8}{4}$ (×2)

3 Use <, > or = to complete each statement.

a) $3\frac{1}{5}$ < $3\frac{4}{5}$

b) $\frac{13}{5}$ < $\frac{17}{5}$

c) $\frac{15}{5}$ < $3\frac{3}{5}$ = $\frac{18}{5}$

d) $4\frac{2}{5}$ < $\frac{23}{5}$ = $4\frac{3}{5}$

e) $4\frac{2}{6}$ > $\frac{23}{6}$ = $3\frac{5}{6}$

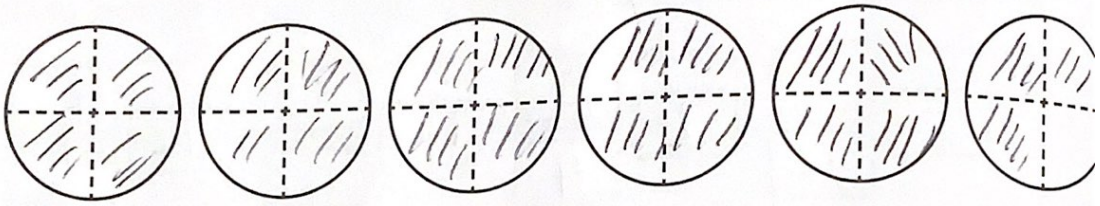
f) $\frac{23}{7}$ < $4\frac{2}{7}$ = $\frac{30}{7}$

4 Kate and Lee are cycling laps around a track.

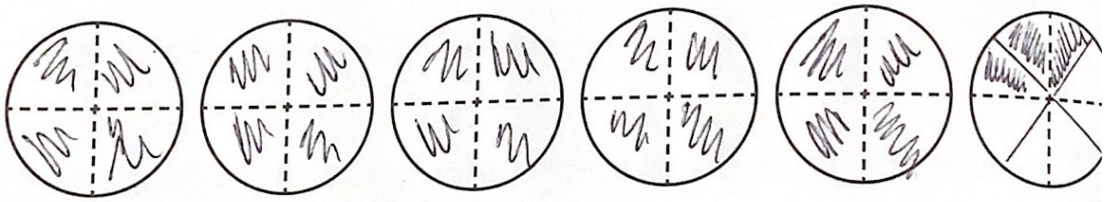
Kate has completed $5\frac{3}{4}$ laps. Lee has completed $5\frac{3}{8}$ laps.

Who has cycled farther? Show this using the diagrams.

Kate



Lee



Kate has cycled farther.

5 Complete each statement.

a) $2\frac{7}{8}$ < $4\frac{3}{4}$ $\frac{6}{8}$

b) $3\frac{2}{3}$ > $3\frac{1}{6}$ $3\frac{4}{6}$

c) $5\frac{1}{5}$ = $5\frac{2}{10}$ $5\frac{2}{10}$

d) $6\frac{3}{6}$ < 6 $\frac{2}{3}$ = $6\frac{4}{6}$ ×2

e) $\frac{31}{5}$ > $\frac{31}{10}$ $\frac{62}{10}$

f) $\frac{41}{6}$ < $\frac{41}{2}$

g) $\frac{21}{2}$ > $\frac{41}{4}$ $\frac{42}{4}$

h) $\frac{13}{3}$ = $\frac{39}{9}$ $\frac{39}{9}$

i) $\frac{21}{5}$ > $2\frac{1}{5}$ $\frac{11}{5}$

j) $\frac{31}{10}$ = $3\frac{1}{10}$ $\frac{31}{10}$

k) $5\frac{1}{3}$ > $\frac{31}{6}$ $\frac{16}{3}$ = $\frac{32}{6}$

l) $4\frac{4}{9}$ > $\frac{13}{3}$ = $4\frac{1}{3}$ = $4\frac{3}{9}$

CHALLENGE

6 **a)** Aki and Bella are guessing a mystery number.

Aki: Is it $4\frac{5}{10}$? ($\frac{45}{10}$)

Bella: Is it $\frac{21}{5}$? ($\frac{42}{10}$)

One of these guesses is too low. One is too high.

Write three different fractions the mystery number could be.

$\frac{43}{10}$ $\frac{44}{10}$ $\frac{87}{20}$

Order these fractions – Aki's, Bella's and the three you have written.

$\frac{21}{5}$ < $\frac{43}{10}$ < $\frac{87}{20}$ < $\frac{44}{10}$ < $4\frac{5}{10}$

b) Write five different fractions between $3\frac{3}{8}$ and $\frac{53}{16}$.

Answers will vary depending on denominator chosen - a possible solution is:

$3\frac{11}{32}$ $3\frac{21}{64}$ $3\frac{23}{64}$ $3\frac{41}{128}$

Place these fractions in order from greatest to smallest.

$3\frac{3}{8}$, $3\frac{23}{64}$, $3\frac{11}{32}$, $3\frac{21}{64}$, $3\frac{41}{128}$, $\frac{53}{16}$

Reflect

Explain two different methods for comparing $\frac{8}{3}$ and $2\frac{1}{6}$.

$\frac{8}{3} = 2\frac{2}{3}$ $2/3$ is greater than $1/6$ so $\frac{8}{3} > 2\frac{1}{6}$.

$2\frac{1}{6} = \frac{13}{6}$; $8/3 = \frac{16}{6}$ so $8/3$ is greater than $2\frac{1}{6}$.