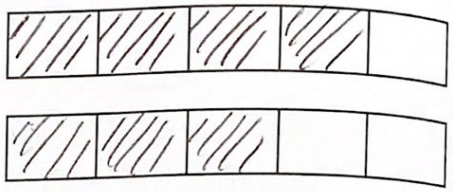
→ Textbook 5B p72

Comparing and ordering fractions 1

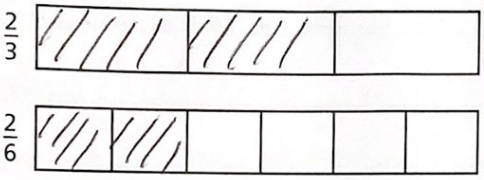
1 Compare these fractions by completing the diagrams.

a) $\frac{1}{6} < \frac{3}{6}$

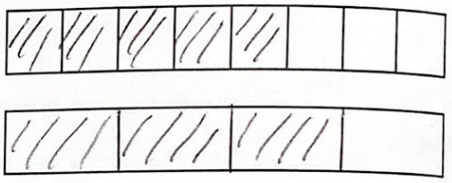
c) $\frac{4}{5} > \frac{3}{5}$



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

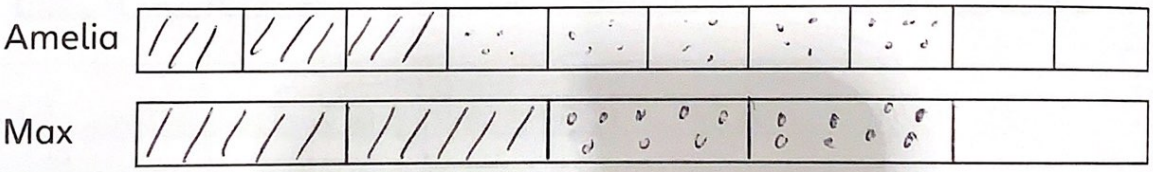


d) $\frac{5}{8} < \frac{3}{4}$



2 Amelia and Max are running a race.

a) Amelia has completed $\frac{3}{10}$ of the track and Max has completed $\frac{2}{5}$. Who has run further?



$\frac{2}{5} > \frac{3}{10}$

Max has run further.

b) Later, Max has completed $\frac{8}{10}$ and Amelia has completed $\frac{4}{5}$. Is one of them in the lead?

$\frac{8}{10} \div 2 \rightarrow \frac{4}{5}$ $\quad$ $\frac{4}{5} \times 2 \rightarrow \frac{8}{10}$

No one is in the lead because 8/10 is equivalent to 4/5

3 Write each set of fractions in order from largest to smallest.

a) $\frac{3}{4}$ $\frac{3}{8}$ $\frac{7}{8}$

$\frac{7}{8}, \frac{3}{4}, \frac{3}{8}$

b) $\frac{1}{2}$ $\frac{5}{6}$ $\frac{5}{12}$

$\frac{5}{6}, \frac{1}{2}, \frac{5}{12}$

c) $\frac{3}{4}$ $\frac{7}{10}$ $\frac{17}{20}$ $\frac{4}{5}$

$\frac{17}{20}, \frac{4}{5}, \frac{3}{4}, \frac{7}{10}$

4 Bella says, 'I used these diagrams to compare $\frac{4}{5}$ and $\frac{6}{10}$. It looks like $\frac{6}{10}$ is bigger.'

$\frac{4}{5}$

$\frac{6}{10}$

Explain her mistake.

Bella didn't start with equal wholes. Both bars needed to be the same size and then split into 5ths and 10ths before she shaded and compared them.

5 Use each card once to complete all the statements correctly.

1 9 12 5

$\frac{2}{5} > \frac{5}{15}$ because $\frac{2}{5} = \frac{6}{15}$ (×3)

$\frac{1}{8} < \frac{1}{4}$ because $\frac{1}{4} = \frac{2}{8}$ (×2)

$\frac{6}{12 \text{ or } 9} < \frac{3}{4}$ $\quad \frac{3}{4} = \frac{9}{12}$

$\frac{1}{9 \text{ or } 12} < \frac{5}{18}$ $\quad \frac{1}{9} = \frac{2}{18}$

CHALLENGE

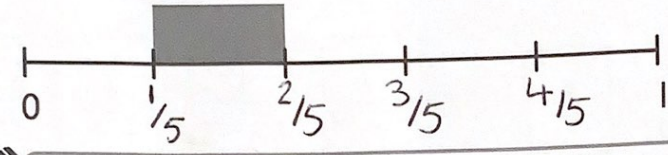
6 Write three different fractions that are in the shaded section of each number line.

Possible solutions (answers can vary)

a)

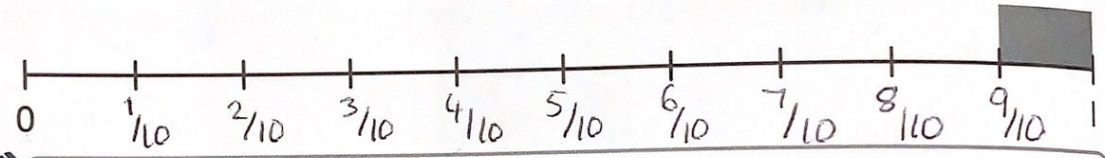
$\frac{1}{3} < \frac{1}{2} < \frac{2}{3}$ $\quad \frac{1}{3} < \frac{5}{9} < \frac{2}{3}$ $\quad \frac{1}{3} < \frac{7}{12} < \frac{2}{3}$

b)



3/10, 4/15, 5/15, 7/20, 5/20, 6/20

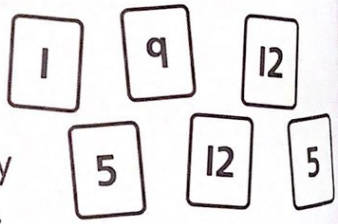
c)



$\frac{19}{20}$ $\quad \frac{29}{30}$ $\quad \frac{99}{100}$

Reflect

Use the cards to make three fractions. You can only use each card once. Put the fractions in order. Choose carefully to show the different skills you need to compare fractions.



- $\frac{1}{5}, \frac{9}{12}$
- $\frac{1}{5}, \frac{9}{5}, \frac{12}{12}$
- $\frac{1}{12}, \frac{5}{12}, \frac{5}{9}$