

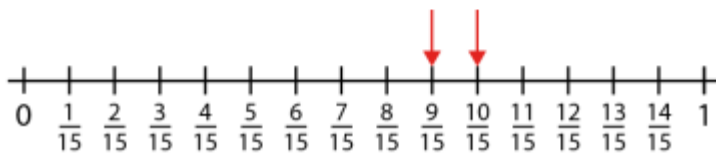
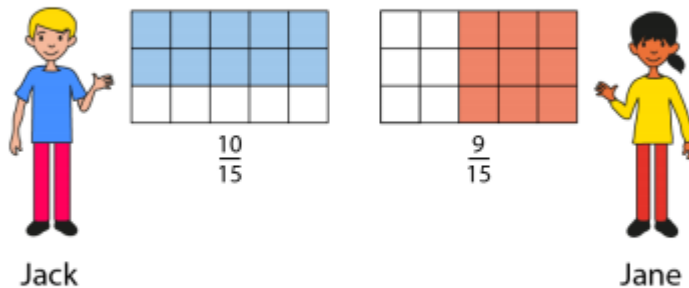
Friday - Comparing fractions.

Please have a go at comparing fractions based on their size.

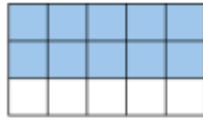
I would like you to think about the proportion of the fractions - just because it looks like the numbers are larger, does not mean they are!

'Jack and Jane are tiling identical-sized walls. Jack has tiled $\frac{10}{15}$ of his wall and Jane has tiled $\frac{9}{15}$ of her wall.

Who has tiled the larger area?'



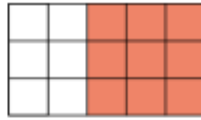
'Jack has tiled more, because he has tiled $\frac{10}{15}$ of the wall, and Jane has only tiled $\frac{9}{15}$ of the wall. $\frac{10}{15}$ is greater than $\frac{9}{15}$.'



I have tiled $\frac{2}{3}$ of the wall.



Jack



I have tiled $\frac{3}{5}$ of the wall.



Jane

Who is correct? Why?
Explain it to a sibling or adult.

$$\begin{array}{ccc} & \times 5 & \\ \text{↻} & & \text{↻} \\ \frac{2}{3} & = & \frac{10}{15} \\ & \times 5 & \end{array}$$

$$\begin{array}{ccc} & \times 3 & \\ \text{↻} & & \text{↻} \\ \frac{3}{5} & = & \frac{9}{15} \\ & \times 3 & \end{array}$$

As you can see, both have been scaled up by 5 (made 5 times larger), so they are equivalent fractions on each side of the arrows.

Time to try some yourself! Remember your strategies for adding and subtracting fractions - make common denominators if you need to.

- 'Which is easier to compare?'

$$\frac{10}{15} \bigcirc \frac{9}{15}$$

$$\frac{2}{3} \bigcirc \frac{3}{5}$$

- 'Place the following numbers on the number line.'

$$\frac{10}{15} \quad \frac{9}{15} \quad \frac{2}{3} \quad \frac{3}{5}$$



Now try using the less than and more than signs to compare your fractions. Use the method shown in the example. →

$$\begin{array}{ccc} \frac{1}{3} & < & \frac{3}{8} \\ \downarrow \times 8 & & \downarrow \times 3 \\ \frac{1}{3} = \frac{8}{24} & & \frac{3}{8} = \frac{9}{24} \\ \uparrow \times 8 & & \uparrow \times 3 \\ \frac{8}{24} & < & \frac{9}{24} \end{array}$$

• 'Fill in the missing symbols (<, > or =). Convert each pair to a common denominator.'

$$\frac{5}{7} \bigcirc \frac{2}{3}$$

$$\frac{6}{10} \bigcirc \frac{3}{5}$$

$$\frac{7}{9} \bigcirc \frac{3}{4}$$

$$\frac{5}{7} \bigcirc \frac{6}{8}$$

$$\frac{2}{3} \bigcirc \frac{7}{10}$$

$$\frac{2}{6} \bigcirc \frac{3}{9}$$

$$\frac{3}{11} \bigcirc \frac{1}{3}$$

$$\frac{1}{5} \bigcirc \frac{2}{11}$$

• 'Order these fractions from largest to smallest.'

$$\frac{2}{5} \quad \frac{3}{10} \quad \frac{1}{4}$$

Remember that the denominator shows you the size of the fraction if it is different, not the numerator. Convert if you need to.

'Order each set of fractions from largest to smallest.'

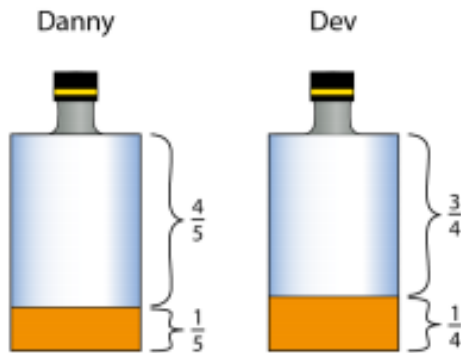
$$\frac{10}{8} \quad \frac{7}{8} \quad \frac{5}{8} \quad \frac{3}{8} \quad \frac{8}{8} \quad \frac{4}{8} \quad \frac{2}{8}$$

$$\frac{1}{6} \quad \frac{1}{5} \quad \frac{1}{8} \quad \frac{1}{7} \quad \frac{1}{10} \quad \frac{1}{9}$$

$$\frac{3}{3} \quad \frac{3}{8} \quad \frac{3}{11} \quad \frac{3}{100} \quad \frac{3}{5} \quad \frac{3}{2}$$

Now try to explain the choices you are making whilst solving this problem, using problem solving language – I know this because... I found that... If... then... When This is So...

'Danny and Dev had identical bottles of juice. Danny drank $\frac{4}{5}$ of his juice. Dev drank $\frac{3}{4}$ of his juice. Who drank more of their juice?'



Example:

- 'If Danny drank $\frac{4}{5}$ of his juice, then he has $\frac{1}{5}$ left.'
- 'If Dev drank $\frac{3}{4}$ of his juice, then he has $\frac{1}{4}$ left.'
- ' $\frac{1}{5}$ is less than $\frac{1}{4}$, therefore Danny has less juice left. That means he drank more.'

$$\frac{1}{5} < \frac{1}{4}$$

so

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

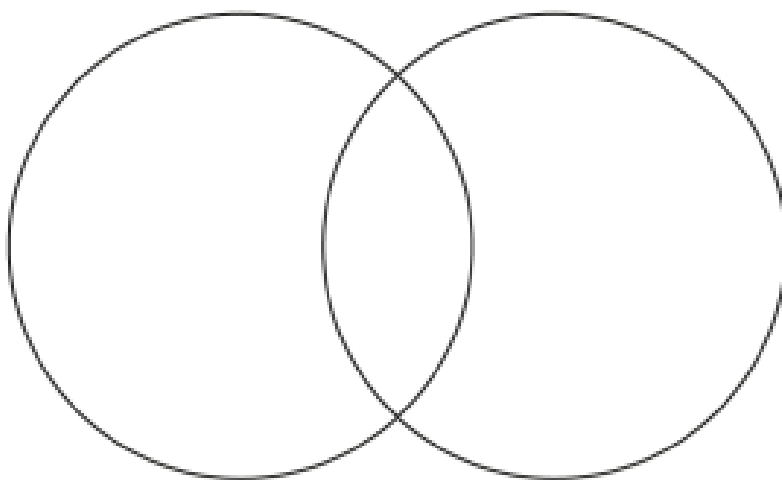
Sorting:

'Sort the pair of equations according to the method you would use to compare them.'

$\frac{7}{8}$ and $\frac{5}{6}$	$\frac{1}{3}$ and $\frac{1}{4}$	$\frac{5}{11}$ and $\frac{3}{5}$	$\frac{1}{10}$ and $\frac{7}{8}$
$\frac{4}{10}$ and $\frac{5}{12}$	$\frac{2}{5}$ and $\frac{3}{8}$	$\frac{6}{9}$ and $\frac{6}{10}$	$\frac{3}{4}$ and $\frac{7}{9}$

**common
denominator**

reasoning



With these problems, just go as far as you can comfortably manage.

'Fill in the missing symbols (<, > or =).'

$$\frac{5}{6} \bigcirc \frac{4}{7}$$

$$\frac{8}{9} \bigcirc \frac{7}{11}$$

Real-life contextual problems

'Sabijah and Will are in a running race. Sabijah has run $\frac{9}{10}$ of the race. Will has run $\frac{8}{9}$ of the race. Who is further ahead?'

Sequencing:

'For each sequence, tick the correct box to show if the fractions in each pattern are increasing, decreasing or neither.'

				Increasing	Decreasing	Neither
$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{5}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$\frac{1}{2}$	$\frac{2}{4}$	$\frac{3}{6}$	$\frac{4}{8}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$\frac{3}{2}$	$\frac{4}{3}$	$\frac{5}{4}$	$\frac{6}{5}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$\frac{6}{13}$	$\frac{7}{12}$	$\frac{8}{11}$	$\frac{9}{12}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Dòng nào jīn:

- 'Order each set of fractions using the < symbol.'

$$\frac{7}{16} \frac{5}{18} \frac{5}{16}$$

$$\frac{3}{7} \frac{2}{9} \frac{3}{6}$$

$$\frac{2}{7} \frac{1}{9} \frac{4}{5}$$

$$\frac{4}{10} \frac{2}{12} \frac{5}{9}$$

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