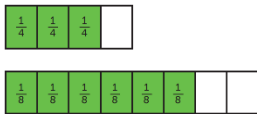


## Showing equivalence with accurate diagrams

### REHEARSE

Show three quarters as equal to six eighths.

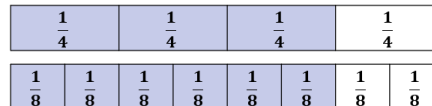


Explain what is wrong with the diagram.

The equal parts labelled as quarters are the same size as the equal parts labelled as eighths.  $\frac{1}{8}$  is half the size of  $\frac{1}{4}$ .

To compare fractions, the wholes should be equal, but they are not.

Draw an accurate diagram to show that three quarters ( $\frac{3}{4}$ ) are equal to six eighths ( $\frac{6}{8}$ ).

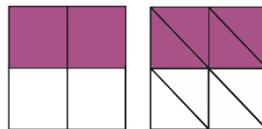
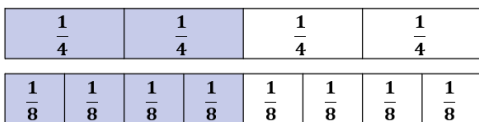


### REHEARSE

Show that:

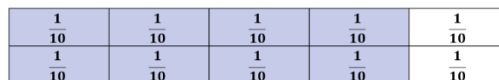
$$\frac{2}{4} \text{ is equivalent to } \frac{4}{8}$$

Examples could include:



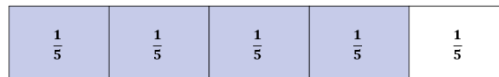
$$\frac{8}{10} \text{ is equivalent to } \frac{4}{5}$$

Examples could include:



Which set was easier to draw? Why?

Explanations could include:



$\frac{2}{4}$  and  $\frac{4}{8}$  were easier to draw because the denominators are even. The midpoint can be used to help with accurate drawing.

### RETRIEVE

Can I still identify parallel lines?

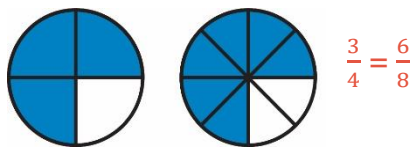
What colours are the parallel lines? Purple, yellow and green are parallel to each other.



### APPLY AND EXPLORE

Draw diagrams to show two fractions equivalent to  $\frac{3}{4}$ .

Examples could include:



$$\frac{3}{4} = \frac{6}{8}$$



$$\frac{3}{4} = \frac{9}{12}$$

### APPLY AND EXPLORE

Use what you know about the relationship between the numerator and denominator in equivalent fractions to complete the missing numbers.

$$\frac{10}{20} = \frac{1}{2}$$

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

$$\frac{3}{4} = \frac{18}{24}$$

Choose one and prove you are correct.

Proof should include an explanation, drawing or diagram to describe the multiplicative relationship between the numerators and denominators.

For example,

I know that 10 out of 20 equal parts of a whole is half of the whole so  $\frac{10}{20} = \frac{1}{2}$ .

I know that 9 is made up of three 3s. So  $\frac{1}{3}$  of 9 = 3 and then  $\frac{2}{3}$  of 9 is 6.  $\frac{2}{3} = \frac{6}{9}$ .