

Fractions – Lesson 4

Today we are going to start with a little revision of yesterday's lesson and then move on to simplifying fractions.

Reminder

$$\frac{3}{4} = \frac{15}{20}$$

$\times 5$ (top) and $\times 5$ (bottom)

$$\frac{4}{5} = \frac{28}{35}$$

$\times 7$ (top) and $\times 7$ (bottom)

$$\frac{30}{42} = \frac{5}{7}$$

$\div 6$ (top) and $\div 6$ (bottom)

Copy and complete: -

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

2) $\frac{8}{12} = \frac{\quad}{6}$

3) $\frac{3}{4} = \frac{\quad}{24}$

4) $\frac{20}{35} = \frac{4}{\quad}$

5) $\frac{4}{5} = \frac{28}{\quad}$

5) $\frac{25}{45} = \frac{\quad}{9}$

7) $\frac{5}{7} = \frac{\quad}{56}$

8) $\frac{30}{50} = \frac{6}{\quad}$

9) $\frac{4}{9} = \frac{36}{\quad}$

10) $\frac{28}{56} = \frac{7}{\quad}$

Please click for a video version of the following explanation https://youtu.be/t_a9dhLMZN4

When we simplify a fraction we keep dividing top and bottom until we cannot go any further. For example: -

$$\frac{35}{40} = \frac{7}{8}$$

$\div 5$ (top) and $\div 5$ (bottom)

Sometimes more than one division is required.

It is also possible that different people do different divisions or do the same divisions in a different order, but they all get the correct answer for example: -

$$\frac{36}{48} = \frac{18}{24} = \frac{9}{12} = \frac{3}{4}$$

$\div 2$ (top) and $\div 2$ (bottom) for the first step; $\div 2$ (top) and $\div 2$ (bottom) for the second step; $\div 3$ (top) and $\div 3$ (bottom) for the third step.

$$\frac{36}{48} \stackrel{\div 3}{=} \frac{12}{16} \stackrel{\div 2}{=} \frac{6}{8} \stackrel{\div 2}{=} \frac{3}{4}$$

$$\frac{36}{48} \stackrel{\div 3}{=} \frac{12}{16} \stackrel{\div 4}{=} \frac{3}{4}$$

$$\frac{36}{48} \stackrel{\div 12}{=} \frac{3}{4}$$

Now simplify these fractions: -

11) $\frac{9}{12}$

12) $\frac{12}{16}$

13) $\frac{15}{20}$

14) $\frac{21}{28}$

15) $\frac{27}{36}$

16) $\frac{30}{40}$

17) $\frac{36}{48}$

18) $\frac{45}{60}$

19) $\frac{54}{72}$

20) $\frac{72}{96}$

Did you notice that all these questions have the same answer? It was certainly not obvious at the start of the exercise that these are ten different ways of writing the same fraction. In future work always simplify your answer so that, if two questions have the same answer, you will notice.