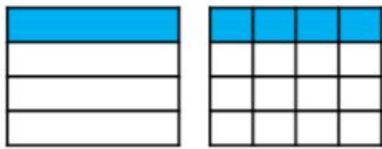


## Maths - Wednesday 6<sup>th</sup> January

### Fractions Revision (Equivalent fractions, Simplifying fractions, improper fractions and mixed numbers)

1.

Eva uses the models and her multiplication and division skills to find equivalent fractions.



$$\frac{1}{4} = \frac{4}{16}$$

Use this method to find equivalent fractions to  $\frac{2}{4}$ ,  $\frac{3}{4}$  and  $\frac{4}{4}$  where the denominator is 16

Eva uses the same approach to find equivalent fractions for these fractions. How will her method change?

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

$$\frac{6}{12} = \frac{\square}{4}$$

$$\frac{6}{12} = \frac{\square}{2}$$

2.

Rosie says,



To find equivalent fractions, whatever you do to the numerator, you do to the denominator.

Using her method, here are the equivalent fractions Rosie has found for  $\frac{4}{8}$

$$\frac{4}{8} = \frac{8}{16} \quad \frac{4}{8} = \frac{6}{10}$$

$$\frac{4}{8} = \frac{2}{4} \quad \frac{4}{8} = \frac{1}{5}$$

Are all Rosie's fractions equivalent?  
Does Rosie's method work?  
Explain your reasons.

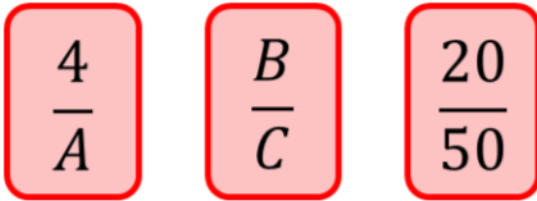
3.

Ron thinks you can only simplify even numbered fractions because you keep on halving the numerator and denominator until you get an odd number.

Do you agree?  
Explain your answer.

4.

Here are some fraction cards.  
All of the fractions are equivalent.

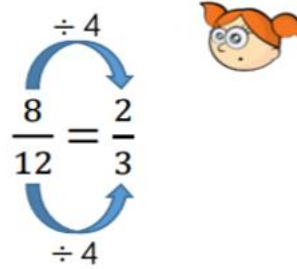


$A + B = 16$   
Calculate the value of C.

5.

Alex is simplifying  $\frac{8}{12}$  by dividing the numerator and denominator by their highest common factor.

Factors of 8: 1, 2, 4, 8  
Factors of 12: 1, 2, 3, 4, 6, 12  
4 is the highest common factor.



Use Alex's method to simplify these fractions:

$$\frac{6}{9} \quad \frac{6}{18} \quad \frac{10}{18} \quad \frac{10}{15} \quad \frac{15}{50}$$

6.

Mo has 3 boxes of chocolates. 2 boxes are full and one box is  $\frac{4}{10}$  full.



To simplify  $2 \frac{4}{10}$ , keep the whole number the same and simplify the fraction.  $\frac{4}{10}$  simplifies to  $\frac{2}{5}$

$$2 \frac{4}{10} = 2 \frac{2}{5}$$

Use Mo's method to simplify:

$$3 \frac{4}{8}, 5 \frac{9}{21}, 2 \frac{7}{21}, \frac{32}{10}, \frac{32}{6}$$

**7.**

Find the total of the fractions.  
Give your answer in its simplest form.

$$\frac{5}{9} + \frac{1}{9} = \quad \frac{5}{9} + \frac{3}{9} = \quad \frac{5}{9} + \frac{7}{9} =$$

Do all the answers need simplifying?  
Explain why.

**8.**

Sort the fractions into the table.

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

$\frac{5}{15}$	$\frac{2}{4}$	$\frac{4}{16}$	$\frac{8}{16}$	$\frac{5}{10}$	$\frac{3}{9}$	$\frac{6}{12}$	$\frac{2}{8}$
----------------	---------------	----------------	----------------	----------------	---------------	----------------	---------------

Can you see any patterns between the numbers in each column?  
What is the relationship between the numerators and denominators?  
Can you add three more fractions to each column?

Complete the sentence to describe the patterns:  
When a fraction is equivalent to \_\_\_\_\_,  
the numerator is \_\_\_\_\_ the denominator.

**9.**

Amir says,

$\frac{28}{3}$  is less than  $\frac{37}{5}$   
because 28 is less than 37



Do you agree?  
Explain why.

## 10.

### Spot the mistake

- $\frac{27}{5} = 5\frac{1}{5}$
- $\frac{27}{3} = 8$
- $\frac{27}{4} = 5\frac{7}{4}$
- $\frac{27}{10} = 20\frac{7}{10}$

What mistakes have been made?

Can you find the correct answers?

## 11.

Three children have incorrectly converted  $3\frac{2}{5}$  into an improper fraction.



Annie

$$3\frac{2}{5} = \frac{6}{15}$$



Mo

$$3\frac{2}{5} = \frac{15}{5}$$



Dexter

$$3\frac{2}{5} = \frac{32}{5}$$

What mistake has each child made?

## 12.

Fill in the missing numbers.

How many different possibilities can you find for each equation?

$$2 \frac{\square}{8} = \frac{\square}{8}$$

$$2 \frac{\square}{5} = \frac{\square}{5}$$

Compare the number of possibilities you found.

### Maths Challenges/additional activities relating to fractions:

Matching Fractions interactive game <https://nrich.maths.org/8283>

Matching Fractions, Decimals and Percentages interactive game <https://nrich.maths.org/1249>