

Equivalent fractions and simplifying fractions

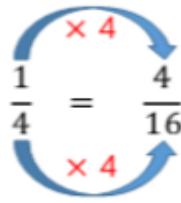
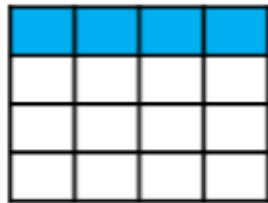
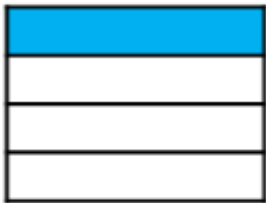
You'll need your multiplying and dividing skills for this lesson so it would be a great idea to complete a TT Rockstars warm up first!

Look at these 2 links:

<https://www.bbc.co.uk/bitesize/topics/zsxhfg8/articles/zwjwgdgm> equivalent fractions

<https://www.bbc.co.uk/bitesize/topics/zhdwxnb/articles/zcdgxfr> simplifying fractions

You can use models and multiplication and division skills to find equivalent fractions.



Task 1

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 $\frac{4}{8}$

$$\frac{4}{8} = \frac{8}{16}$$

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

$$\frac{4}{8} = \frac{2}{4}$$

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

Are all Rosie's fractions equivalent?

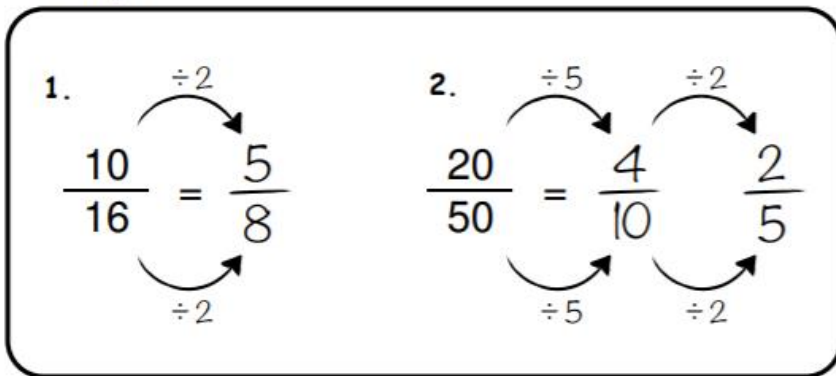
Does Rosie's method work?

Explain your reasons.

Task 2

Simplifying Fractions

Examples:



Simplify the following fractions in your book using the method shown above.:

7. $\frac{3}{30}$

8. $\frac{44}{48}$

9. $\frac{2}{4}$

10. $\frac{10}{45}$

11. $\frac{6}{14}$

12. $\frac{4}{28}$

13. $\frac{5}{15}$

14. $\frac{4}{32}$

15. $\frac{25}{60}$

Task 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.

Task 4

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

$\frac{4}{A}$ $\frac{B}{C}$ $\frac{20}{50}$

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

ANSWERS

Sorry I can't write fractions properly on a word document but hopefully it makes sense.

Task 1

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 $\frac{4}{8}$

$$\frac{4}{8} = \frac{8}{16}$$

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

$\frac{4}{8} = \frac{1}{5}$ and $\frac{4}{8} = \frac{6}{10}$ are incorrect.

Rosie's method doesn't always work. It works when multiplying or dividing both the numerator or denominator but not when adding or subtracting the same thing to both.

Task 2

| | | | | | |
|---------------------|----------------|--------------------|------------------------------------|---------------------|--|
| 7. $\frac{3}{30}$ | $\frac{1}{10}$ | 8. $\frac{44}{48}$ | $\frac{22}{24}$ $\frac{11}{12}$ | 9. $\frac{2}{4}$ | $\frac{1}{2}$ |
| 10. $\frac{10}{45}$ | $\frac{5}{9}$ | 11. $\frac{6}{14}$ | $\frac{3}{7}$ | 12. $\frac{4}{28}$ | $\frac{2}{14} \rightarrow \frac{1}{7}$ |
| 13. $\frac{5}{15}$ | $\frac{1}{3}$ | 14. $\frac{4}{32}$ | $\frac{2}{16}$ $\frac{1}{8}$ | 15. $\frac{25}{60}$ | $\frac{5}{12}$ |

Task 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.

Ron is wrong. For example $\frac{3}{9}$ can be simplified to $\frac{1}{3}$ and these are all odd numbers.

Task 4

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

| | | |
|---------------|---------------|-----------------|
| $\frac{4}{A}$ | $\frac{B}{C}$ | $\frac{20}{50}$ |
|---------------|---------------|-----------------|

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

$A = 10$
 $B = 6$
 $C = 15$