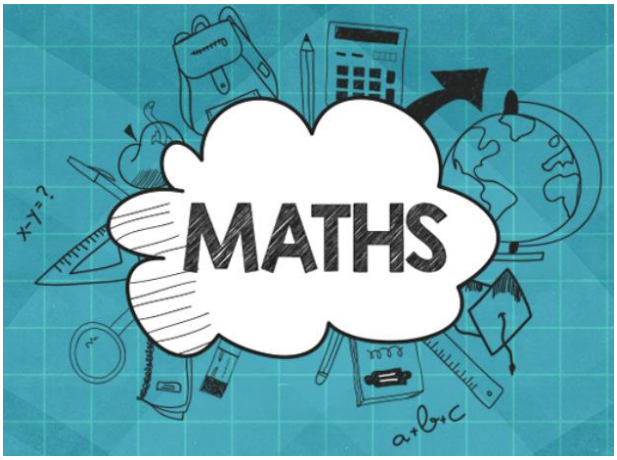


Lesson 5- Consolidation

Simplifying Fractions

For this lesson, we will move onto consolidating simplifying fractions.

How do I Simplify a Fraction ?

There are two ways to simplify a fraction:

Method 1

Try to **evenly divide** (only whole number answers) both the top and bottom of the fraction by 2, 3, 5, 7 ,... etc, until we can't go any further.

Example: Simplify the fraction $\frac{24}{108}$:

$$\frac{24}{108} \overset{\div 2}{=} \frac{12}{54} \overset{\div 2}{=} \frac{6}{27} \overset{\div 3}{=} \frac{2}{9}$$

That is as far as we can go. The fraction simplifies to $\frac{2}{9}$

Method 2

Divide both the top and bottom of the fraction by the Greatest Common Factor (you have to work it out first!).

Example: Simplify the fraction $\frac{8}{12}$:

The largest number that goes exactly into both 8 and 12 is 4, so *the Greatest Common Factor is 4*.

Divide both top and bottom by 4:

$$\frac{8}{12} \overset{\div 4}{=} \frac{2}{3}$$

That is as far as we can go. The fraction simplifies to $\frac{2}{3}$

Simplified Fractions

To simplify a fraction, we find an equivalent fraction which uses the **smallest numbers possible.**

We do this by **dividing.**

$$\frac{24}{40} \overset{\div 2}{\underset{\div 2}{=}} \frac{12}{20}$$

We need to know our tables for this!
Ask yourself, what can I divide both 24 and 40 by?

$$\text{or } \frac{24}{40} \overset{\div 4}{\underset{\div 4}{=}} \frac{6}{10}$$

$$\text{or } \frac{24}{40} \overset{\div 8}{\underset{\div 8}{=}} \frac{3}{5}$$

8 is the biggest number we can divide both by and 3/5 uses the smallest possible numbers as we cannot divide them by anything else.

Depending on how confident you feel, choose 1 task from below:

1 star = Developing

2 stars = Expected

3 stars = Greater Depth

1 star

1. $\frac{8}{16}$ =

2. $\frac{7}{21}$

3. $\frac{9}{15}$ =

4. $\frac{2}{10}$

5. $\frac{3}{12}$ =

6. $\frac{5}{20}$

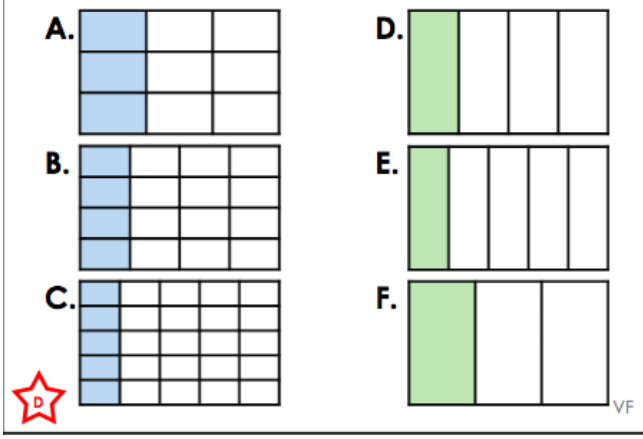
7. $\frac{8}{20}$ =

8. $\frac{4}{6}$

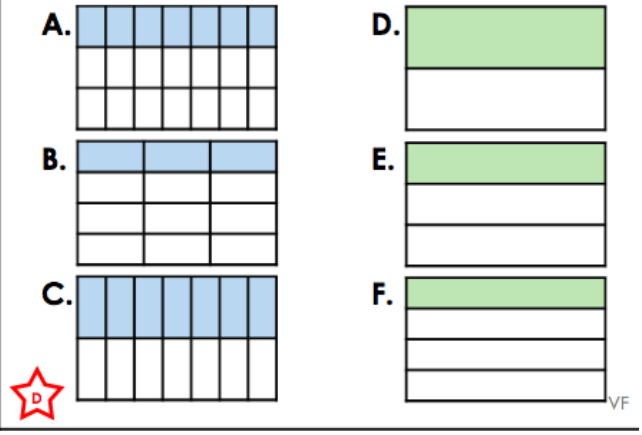
9. $\frac{12}{24}$ =

10. $\frac{10}{15}$

2a. Match each fraction to its simplified version.



2b. Match each fraction to its simplified version.



2 stars

1. $\frac{15}{33}$ =

2. $\frac{12}{15}$ =

3. $\frac{9}{36}$ =

4. $\frac{14}{20}$ =

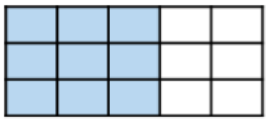
10. $\frac{3}{12}$

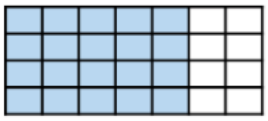
11. $\frac{27}{45}$

12. $\frac{32}{48}$

13. $\frac{35}{80}$

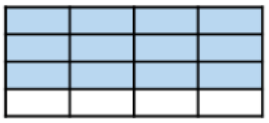
7a. True or false? The following fractions are reduced to their simplest forms.

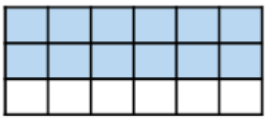
A.  = $\frac{3}{5}$

B.  = $\frac{10}{14}$

VF

7b. True or false? The following fractions are reduced to their simplest forms.

A.  = $\frac{3}{4}$

B.  = $\frac{6}{9}$

VF

8a. Circle the fractions shown in their simplest form.

$\frac{3}{18}$ $\frac{8}{24}$ $\frac{31}{36}$ $\frac{6}{24}$ $\frac{7}{36}$

VF

8b. Circle the fractions shown in their simplest form.

$\frac{21}{28}$ $\frac{11}{14}$ $\frac{7}{15}$ $\frac{9}{12}$ $\frac{13}{20}$

VF

3 stars

1. $\frac{15}{33}$ =

2. $\frac{12}{15}$ =

3. $\frac{9}{36}$ =

4. $\frac{14}{20}$ =

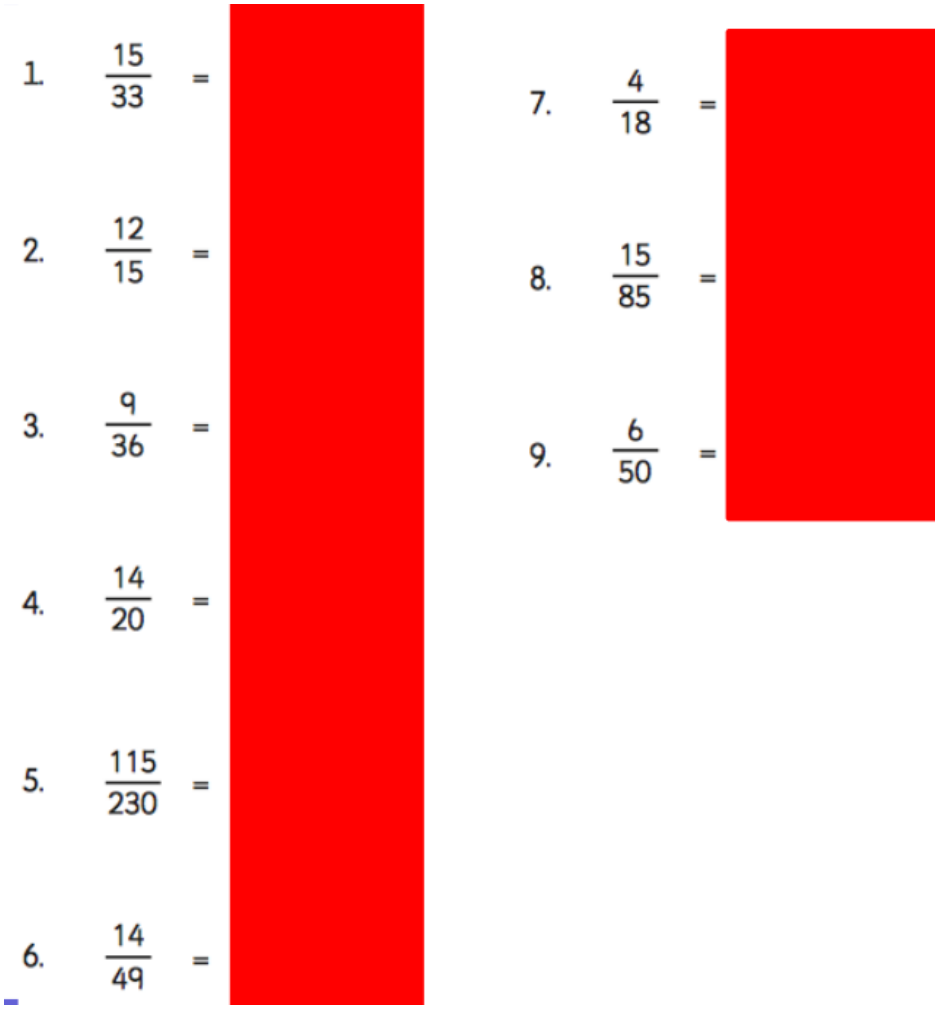
5. $\frac{115}{230}$ =

6. $\frac{14}{49}$ =

7. $\frac{4}{18}$ =

8. $\frac{15}{85}$ =

9. $\frac{6}{50}$ =



12a. Circle the fractions shown in their simplest form.

$\frac{9}{24}$ $\frac{17}{20}$ $\frac{3}{15}$ $\frac{5}{17}$ $\frac{12}{33}$

GD VF

12b. Circle the fractions shown in their simplest form.

$\frac{13}{50}$ $\frac{32}{40}$ $\frac{3}{15}$ $\frac{10}{14}$ $\frac{19}{75}$

GD VF

11a. True or false? The following fractions are reduced to their simplest forms.

A. 49 tulips out of 63 are red. This is $\frac{7}{8}$ when expressed as a fraction.

B. 33 children out of 75 are left handed. This is $\frac{11}{25}$ when expressed as a fraction.

GD VF

11b. True or false? The following fractions are reduced to their simplest forms.

A. 35 dogs out of 100 are brown. This is $\frac{7}{20}$ when expressed as a fraction.

B. Toby scored 32 out of 72 in a test. When expressed as a fraction, this is $\frac{2}{9}$.

GD VF