SIMPLIFYING FRACTIONS 1

TARGET To use common factors to simplify fractions.

To simplify a fraction to its lowest terms divide both the numerator and the denominator by the highest common factor.

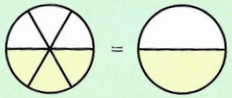
Example

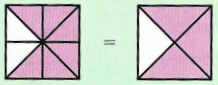
$\frac{12}{20} \overset{(\div 4)}{=} \frac{3}{5}$

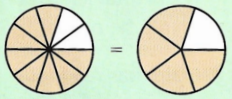
This process is called cancelling. It is shown like this: $\frac{\cancel{12}}{\cancel{20}}\frac{3}{5}$

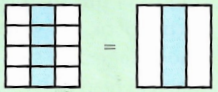
A

Write the equivalent fractions shown in each diagram.

1 

2 

3 

4 

Copy and complete to simplify the fraction to its lowest terms.

5 $\frac{6}{12} \overset{(\div 6)}{=} \frac{1}{\square}$

6 $\frac{3}{9} \overset{(\div 3)}{=} \frac{\square}{3}$

7 $\frac{9}{12} \overset{(\div 3)}{=} \frac{\square}{\square}$

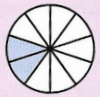
8 $\frac{4}{10} \overset{(\div 2)}{=} \frac{\square}{\square}$

9 $\frac{8}{12} \overset{(\div 4)}{=} \frac{\square}{\square}$

10 $\frac{4}{8} \overset{(\div 4)}{=} \frac{\square}{\square}$

B

Simplify the fraction shown in each diagram to its lowest terms.

1 

2 

3 

4 

5 

6 

7 

8 

Cancel each fraction to its lowest terms.

9 $\frac{8}{10}$ 15 $\frac{12}{18}$

10 $\frac{3}{9}$ 16 $\frac{6}{8}$

11 $\frac{10}{25}$ 17 $\frac{10}{12}$

12 $\frac{8}{12}$ 18 $\frac{16}{20}$

13 $\frac{2}{8}$ 19 $\frac{7}{21}$

14 $\frac{70}{100}$ 20 $\frac{6}{9}$

C

Cancel each fraction to its lowest terms.

1 $\frac{4}{16}$ 11 $\frac{16}{40}$

2 $\frac{30}{100}$ 12 $\frac{80}{100}$

3 $\frac{15}{20}$ 13 $\frac{15}{18}$

4 $\frac{6}{18}$ 14 $\frac{14}{24}$

5 $\frac{85}{100}$ 15 $\frac{15}{25}$

6 $\frac{42}{48}$ 16 $\frac{35}{50}$

7 $\frac{21}{35}$ 17 $\frac{30}{96}$

8 $\frac{44}{100}$ 18 $\frac{54}{81}$

9 $\frac{16}{24}$ 19 $\frac{14}{16}$

10 $\frac{20}{36}$ 20 $\frac{32}{72}$

Write >, < or = in each box.

21 $\frac{12}{24} \square \frac{3}{5}$ 25 $\frac{12}{30} \square \frac{3}{8}$

22 $\frac{4}{5} \square \frac{16}{20}$ 26 $\frac{2}{3} \square \frac{15}{20}$

23 $\frac{12}{36} \square \frac{1}{4}$ 27 $\frac{8}{32} \square \frac{2}{10}$

24 $\frac{3}{4} \square \frac{21}{24}$ 28 $\frac{3}{5} \square \frac{24}{40}$

SIMPLIFYING FRACTIONS 2

TARGET To use the highest common factor to simplify fractions.

To cancel a fraction divide both the numerator and the denominator by the highest common factor (HCF).

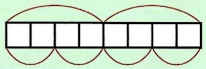
Examples

$\frac{\cancel{8}}{\cancel{12}}\frac{2}{3}$ (HCF is 4) $\frac{\cancel{9}}{\cancel{15}}\frac{3}{5}$ (HCF is 3)

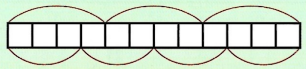
A

Complete each pair of fractions.

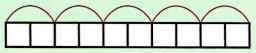
1 $\frac{4}{8} = \frac{1}{\square}$ 2 $\frac{2}{8} = \frac{1}{\square}$

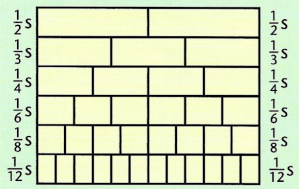


3 $\frac{4}{12} = \frac{1}{\square}$ 4 $\frac{3}{12} = \frac{1}{\square}$



5 $\frac{2}{10} = \frac{1}{\square}$ 6 $\frac{6}{10} = \frac{\square}{\square}$





Use the fraction chart. Copy and complete.

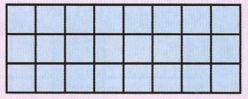
7 $\frac{2}{12} = \frac{\square}{6}$ 11 $\frac{9}{12} = \frac{\square}{4}$

8 $\frac{4}{12} = \frac{\square}{3}$ 12 $\frac{3}{6} = \frac{\square}{2}$

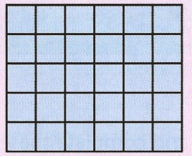
9 $\frac{2}{8} = \frac{\square}{4}$ 13 $\frac{8}{12} = \frac{\square}{3}$

10 $\frac{4}{6} = \frac{\square}{3}$ 14 $\frac{6}{8} = \frac{\square}{4}$

B

1 

What fraction of 24 is:
a) 3 **c)** 8
b) 9 **d)** 16?

2 

What fraction of 30 is:
a) 6 **c)** 5
b) 24 **d)** 25?

Cancel each fraction into its simplest form.

3 $\frac{3}{12}$ 11 $\frac{5}{10}$

4 $\frac{6}{9}$ 12 $\frac{10}{12}$

5 $\frac{4}{8}$ 13 $\frac{12}{16}$

6 $\frac{6}{15}$ 14 $\frac{75}{100}$

7 $\frac{90}{100}$ 15 $\frac{6}{10}$

8 $\frac{2}{6}$ 16 $\frac{14}{20}$

9 $\frac{2}{16}$ 17 $\frac{30}{100}$

10 $\frac{12}{18}$ 18 $\frac{20}{25}$

C

1 What fraction of 20 is:
a) 2 **c)** 5
b) 14 **d)** 15?

2 What fraction of 80 is:
a) 8 **c)** 10
b) 4 **d)** 50?

3 What fraction of 45 is:
a) 9 **c)** 27
b) 5 **d)** 20?

4 What fraction of £1 is:
a) 5p **c)** 20p
b) 95p **d)** 80p?

5 What fraction of 1 km is:
a) 50 m **c)** 25 m
b) 650 m **d)** 175 m?

6 Julia has £48.
She spends £18.
What fraction of her money is left?

7 A bottle of lemonade holds 1 litre.
350 ml is used.
What fraction is left?

8 A bag holds 75 kg of potatoes. 45 kg is used.
What fraction is left?