

## Give me 5

What is half of 68?

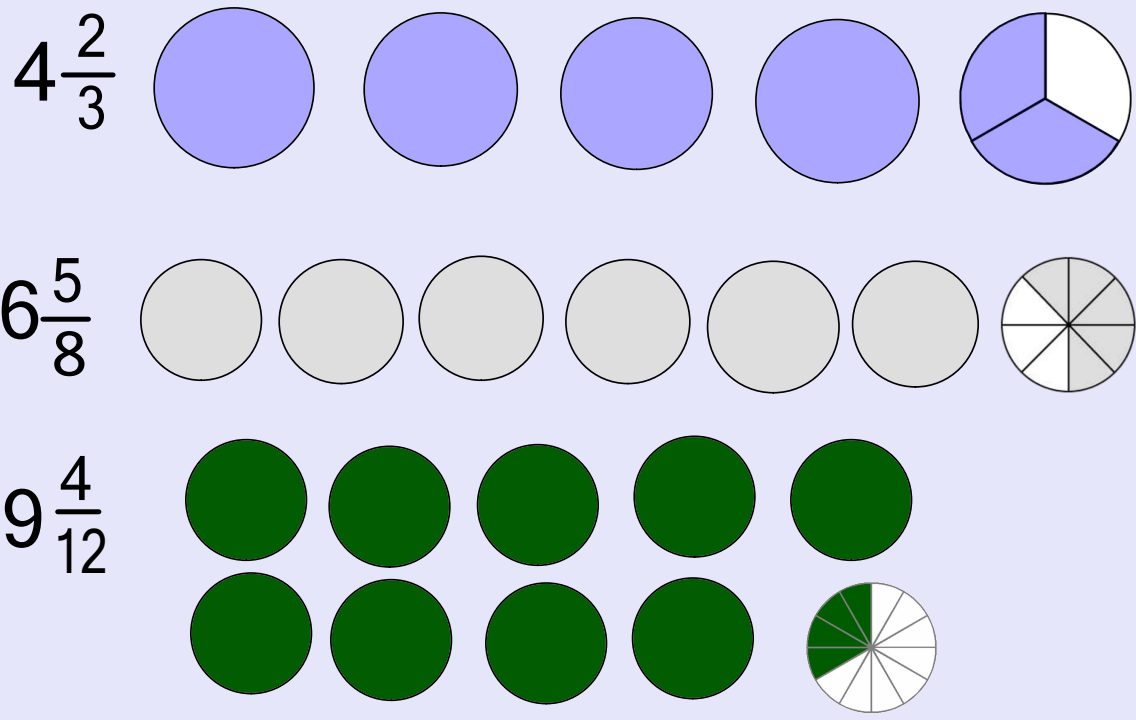
$3531 + 2343 =$

$9231 - 6574 =$

$47 \times 4 =$

72 divided by 3 =


What is a 'mixed number'?








# Simplifying Mixed Numbers


Lesson 6

**In Focus**





share 5 cakes.





I take the orange parts.

I take the blue parts.



I take the pink parts.

Ravi

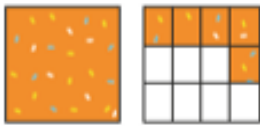
Hannah Emma

How much cake does Ravi take?

How much cake does Emma take?

How much cake does Hannah take?

4

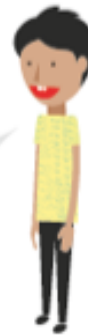
**Let's Learn****1**

$$1 + \frac{5}{12} = 1\frac{5}{12}$$

$1\frac{5}{12}$  is the simplest form.

How many whole cakes does Ravi take?

I take 1 and 5 twelfths of a cake.





How do we know it is twelfths?

How many twelfths does he take altogether?


How much cake does he take altogether?

What fraction does he take?

**2**






I take 1 and 4 twelfths of a cake.




$$1 + \frac{4}{12} = 1\frac{4}{12}$$

$1\frac{4}{12}$  can be simplified.

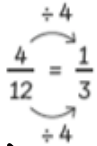



4 smaller parts become 1 larger part.



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

$1\frac{1}{3}$  is the simplest form.



Does  $\frac{4}{12}$  look equivalent to another fraction?

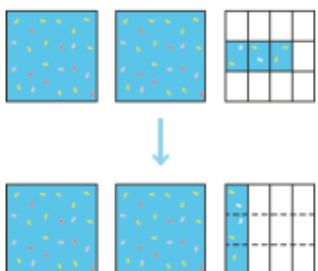
Can we explain why it is equivalent, using our knowledge of times tables?

This process is known as simplifying the fraction.

How much cake does Emma take?

How do you know?

3



I take 2 and 3 twelfths of a cake.

3 smaller parts become 1 larger part.

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

$2\frac{3}{12}$  can be simplified.

$2\frac{3}{12} = 2\frac{1}{4}$

$2\frac{1}{4}$  is the simplest form.

What if they share the 5 cakes equally?

How much cake does Hannah get?

Can you simplify this fraction?

Steps to success:



1. Find out the lowest common multiple. (what times table they are both in)

$$\frac{3}{12} = \frac{?}{?}$$

Diagram showing a fraction  $\frac{3}{12}$  equal to  $\frac{?}{?}$ . The top arc is labeled  $\div ?$  and the bottom arc is labeled  $\div ?$ .

$$\frac{3}{12} = \frac{?}{?}$$

Diagram showing a fraction  $\frac{3}{12}$  equal to  $\frac{?}{?}$ . The top arc is labeled  $\div 3$  and the bottom arc is labeled  $\div 3$ .

2. Divide the numerator and the denominator by the lowest common multiple.

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

Diagram showing the simplified fraction  $\frac{3}{12} = \frac{1}{4}$ . The top arc is labeled  $\div 3$  and the bottom arc is labeled  $\div 3$ . A small blue square with the number 3 is at the bottom right.



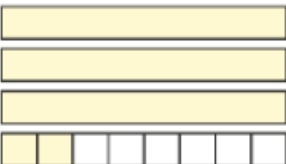
Guided Practice

1 Simplify.

(a)  $1\frac{6}{12} =$



(b)  $3\frac{2}{8} =$

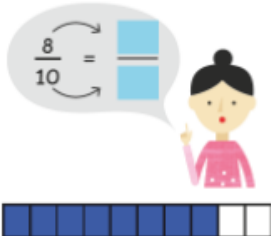


2 Write each mixed number in its simplest form.

(a)  $2\frac{6}{9} =$



(b)  $5\frac{8}{10} =$



3 Which mixed numbers are in their simplest form?

- $5\frac{8}{12}$
- $2\frac{5}{8}$
- $1\frac{7}{12}$
- $3\frac{4}{8}$
- $3\frac{5}{10}$
- $1\frac{9}{12}$
- $7\frac{7}{8}$
- $2\frac{4}{6}$

Worksheet 6

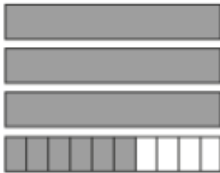
Simplifying Mixed Numbers

1 Simplify.

(a)  $2\frac{4}{12} = \boxed{\phantom{00}}$

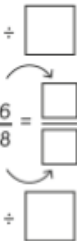


(b)  $3\frac{6}{10} = \boxed{\phantom{00}}$

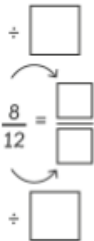


2 Write each mixed number in its simplest form.

(a)  $2\frac{6}{8} = \boxed{\phantom{00}}$



(b)  $3\frac{8}{12} = \boxed{\phantom{00}}$



(c)  $4\frac{5}{20} = \boxed{\phantom{00}}$

$\div \boxed{\phantom{00}}$

$\frac{5}{20} = \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$

$\div \boxed{\phantom{00}}$

(d)  $6\frac{6}{9} = \boxed{\phantom{00}}$

$\div \boxed{\phantom{00}}$

$\frac{6}{9} = \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$

$\div \boxed{\phantom{00}}$

3 Circle the mixed numbers that are in the simplest forms.

$2\frac{3}{5}$

$9\frac{4}{10}$

$1\frac{5}{8}$

$7\frac{4}{6}$

$3\frac{3}{9}$

$6\frac{2}{8}$

$2\frac{5}{12}$

$4\frac{3}{7}$

4 Match each mixed number with its simplest form.

$1\frac{8}{12}$  •

•  $2\frac{1}{2}$

$2\frac{2}{4}$  •

•  $2\frac{1}{4}$

$1\frac{3}{9}$  •

•  $1\frac{2}{3}$

$2\frac{2}{8}$  •

•  $2\frac{2}{3}$

$2\frac{4}{6}$  •

•  $1\frac{1}{3}$

Answers

Simplifying Mixed Numbers

1 Simplify.

(a)  $2\frac{4}{12} = 2\frac{1}{3}$

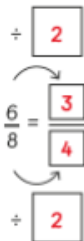


(b)  $3\frac{6}{10} = 3\frac{3}{5}$

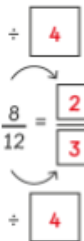


2 Write each mixed number in its simplest form.

(a)  $2\frac{6}{8} = 2\frac{3}{4}$



(b)  $3\frac{8}{12} = 3\frac{2}{3}$



Answers

(c)

$4\frac{5}{20} = 4\frac{1}{4}$

$\div 5$

$\frac{5}{20} = \frac{1}{4}$

$\div 5$

(d)

$6\frac{6}{9} = 6\frac{2}{3}$

$\div 3$

$\frac{6}{9} = \frac{2}{3}$

$\div 3$

3 Circle the mixed numbers that are in the simplest forms.

$2\frac{3}{5}$

$9\frac{4}{10}$

$1\frac{5}{8}$

$7\frac{4}{6}$

$3\frac{3}{9}$

$6\frac{2}{8}$

$2\frac{5}{12}$

$4\frac{3}{7}$

4 Match each mixed number with its simplest form.

$1\frac{8}{12}$

$2\frac{2}{4}$

$1\frac{3}{9}$

$2\frac{2}{8}$

$2\frac{4}{6}$

$2\frac{1}{2}$

$2\frac{1}{4}$

$1\frac{2}{3}$

$2\frac{2}{3}$

$1\frac{1}{3}$

## Challenge

1: Rodney is putting away test tubes in science class. He has 50 test tubes and 12 will fit on each rack. How many rack racks will Rodney fill? Write the answer as a mixed number

2: My dog is  $5\frac{1}{2}$  years old. My cat is  $4\frac{3}{6}$  years younger than my dog. How old is my cat?

## Challenge Answers

1: Rodney is putting away test tubes in science class. He has 50 test tubes and 12 will fit on each rack. How many rack racks will Rodney fill? Write the answer as a mixed number

Rodney manages to fill 4 of the racks with 48 test tubes, but still has 2 left over. Because the rack has 12 spaces, we can write this as  $\frac{2}{12}$ . This can be simplified to  $\frac{1}{6}$ . Rodney fills  $4\frac{1}{6}$  racks

2: My dog is  $5\frac{1}{2}$  years old. My cat is  $4\frac{3}{6}$  years younger than my dog. How old is my cat?

For this problem, we need to simplify  $\frac{4}{6}$  to  $\frac{1}{2}$ . Then we can find the difference.  $5\frac{1}{2} - 4\frac{1}{2} = 1$ . The cat is 1 year old