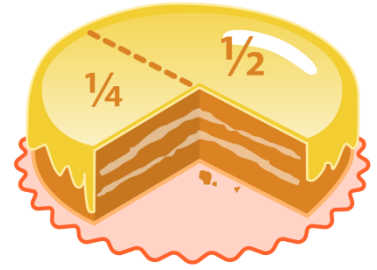


Improper fractions and mixed numbers

An improper fraction is a positive fraction that is expressed with a numerator and a denominator, the numerator being greater than the denominator. A mixed number is a number expressed as the sum of a whole number and a proper fraction, which is a positive fraction that is expressed with a numerator and a denominator, the numerator being smaller than the denominator.

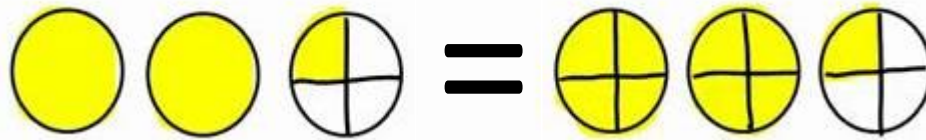


Examples:

$\frac{12}{7}$ is an improper fraction

A mixed number is usually written: $2\frac{1}{3}$, which is equal to $2 + \frac{1}{3}$, that is to say equal to the improper fraction $\frac{7}{3}$.

1. Give an example of proper fraction. Justify.
2. What improper fraction is involved in the sketch below? What mixed number is concerned?



3. Write the fraction $\frac{29}{6}$ under the form of a mixed number.
4. A pupil says to the teacher: "An improper fraction or a mixed number, it's the same thing."
What do you think of this assertion?
5. Let (u_n) be the sequence defined for any natural number n different from zero by $u_n = \frac{n+1}{n}$.
Prove that (u_n) is a decreasing sequence made of improper fractions.