



2 The property of ratios



The basic property of ratios

If you multiply or divide both the preceding item and the latter item of a ratio by the same number (except 0), the ratio remains the same.

$$a : b = ak : bk = \frac{a}{k} : \frac{b}{k} \quad (k \neq 0)$$



Fill in the brackets

$$(1) 3 : 4 = \underline{\quad} : 12$$

$$(2) 0.6 : \underline{\quad} = 3 : 25$$

$$(3) \frac{4}{7} = \frac{(\quad)}{21}$$



The simplest integer ratio

The simplest integer ratio means that both the preceding item and the latter item of the ratio are integers and co-prime.

Simplify the ratios to simplest form

(1) 12: 18

(2) 0.4 : 6

First step is change
decimal to whole
numbers

Example 2

Simplify the ratio

$$2\frac{1}{4} : 0.5$$

EX2: (1) $1\frac{1}{5} : \frac{3}{4}$ (2) $2\frac{3}{5} : 3.9$

Example 3

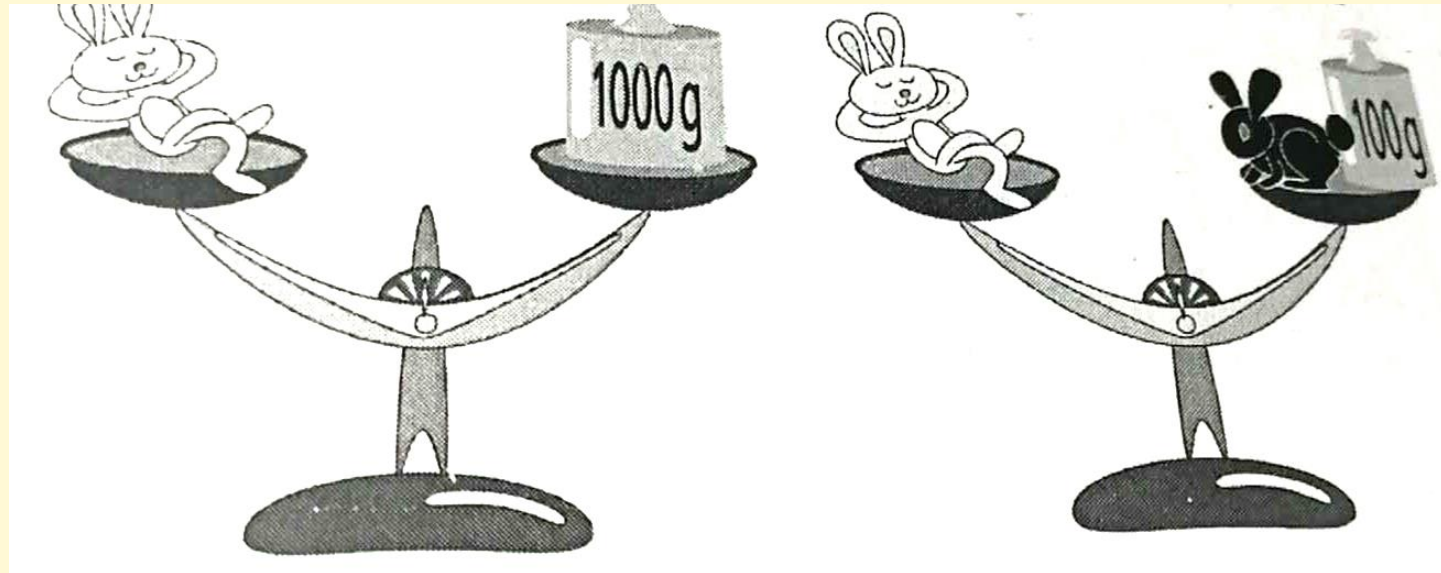
1.25h:1h25min

- EX3:**
- (1) 0.4h:1h12min
 - (2) 625grams:1.75kilograms

Application

Work out the ratio of the weight of the white rabbit to the weight of the black rabbit.

rabbit.



Application

In the ratio 8:9, if the preceding term is increased by 16, then in order to make the ratio unchanged, the latter term should be()

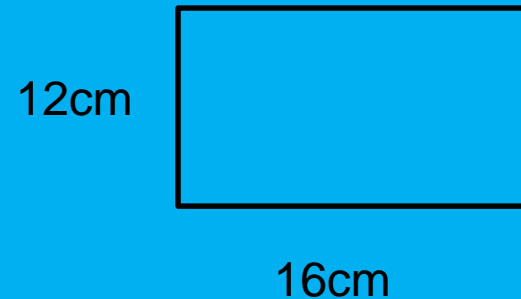
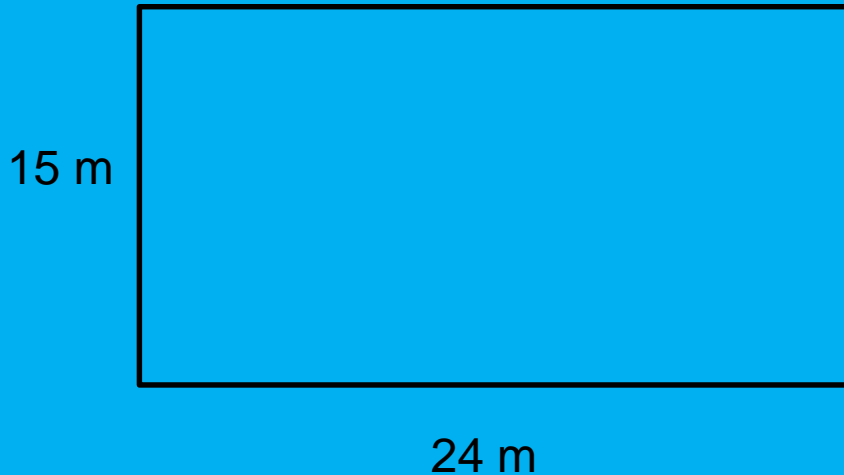
- A. increased by 16
- B. multiplied by 3
- C. unchanged
- D. uncertain

Application

If there is a rectangular wall ,which is 28 meters long and 15 meters wide.

Tom draw it on his paper, which is 16cm long and 12cm wide.

Do you think is it right?



Summary

What have we learned today?

(1) How to simplify the ratio to the simplest form.

(2) Solve practical problems with the property of ratio