

Lesson 4(1)

Proportion

Review

- **Work out the value of the following ratios**

12:16

6 : 10

2.7:4.5

PROPORTION

- Considering a , b , c and d ,

if $a:b=c:d$, then a , b , c and d are in proportion .

$$a:b = c:d$$

- The formula showing that the two ratios are equal is a statement of proportion.

Example 1

In the following pairs of ratios, the two ratios are in proportion or not ? Why?

(1) 3:5 and 6:10

(2) 3:10 and 9:25

(3) $\frac{1}{3}:\frac{1}{2}$ and 12:18

The two ratios are in proportion or not ? Why?

(1) 3:5 and 6:10

① Calculate the ratio value

$$\therefore 3:5 = \frac{3}{5}, \quad 6:10 = \frac{6}{10} = \frac{3}{5}$$

$$\therefore 3:5 = 6:10$$

② Use the basic property of ratios

$3:5$ and $6:10$

$$\therefore 3:5 = 6:10$$

① Calculate the ratio value

Example I

② Use the basic property of ratios

In the following pairs of ratios, the two ratios are in proportion or not ? Why?

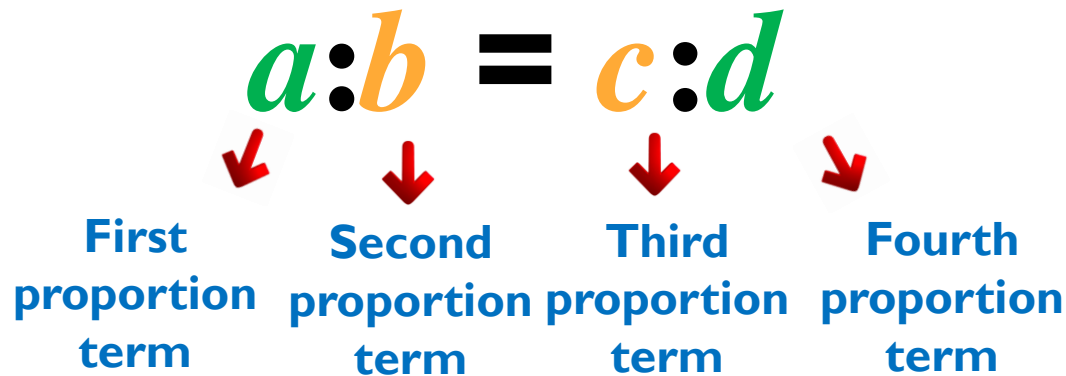
(1) 3:5 and 6:10 ✓ (2) 3:10 and 9:25 ✗

(3) $\frac{1}{3}:\frac{1}{2}$ and 12:18

✓

PROPORTION

- Considering a , b , c and d ,
if $a:b=c:d$, then a , b , c and d are in proportion .
- The formula showing that the two ratio are equal
is a statement of proportion.



PROPORTION

$$a:b = c:d$$

↓ ↓ ↓ ↓

First Second Third Fourth
proportion proportion proportion proportion
term term term term

Can also be written as

$$\frac{a}{b} = \frac{c}{d}$$

First ← Second → Third Fourth
proportion proportion proportion proportion
term term term term

Fill in the brackets to make the following formula proportional

$$(1) \frac{2}{3} = \frac{(\quad)}{(\quad)}$$

$$(2) \frac{4}{(\quad)} = \frac{15}{(\quad)}$$

$$(3) \frac{4}{(\quad)} = \frac{(\quad)}{15}$$



Fill in the brackets to make the following formula proportional

$$(4) \frac{2}{(\quad)} = \frac{(\quad)}{(\quad)}$$

$$(5) \frac{(\quad)}{(\quad)} = \frac{(\quad)}{(\quad)}$$



What we have learned today?