

MODUL AJAR

RATIO

Learning objectives
Simplify two units
into three units

Rules of students:
Fill in according to the
instructions.

PROBLEM ORIENTATION

Simplify two units into three units

Helping me make sense of a current difficulty

Problem: The ratio of Andi's weight to Budi's weight is 5 : 4, while the ratio of Budi's weight to Citra's weight is 6 : 5. Determine the ratio of Andi's weight : Budi's weight : Citra's weight.



STEP 1

Write both comparisons

- Andi : Budi = 5 : 4
- Budi : Citra = 6 : 5

STEP 3:

Adjust the two ratios so that Budi = 12

- ◆ Change the first ratio (5 : 4)

Initial Budi = 4 → becomes 12 (times 3)

So Andi is also multiplied by 3:

$$\text{Andi} = 5 \times 3 = 15$$

$$\text{Budi} = 4 \times 3 = 12$$

New comparison:

$$\text{Andi} : \text{Budi} = 15 : 12$$

- ◆ Change the second ratio (6 : 5)

Initial Budi = 6 → becomes 12 (times 2)

So the image is also multiplied by 2:

- Budi = $6 \times 2 = 12$
- Image = $5 \times 2 = 10$

New comparison:

$$\text{Budi} : \text{Citra} = 12 : 10$$

STEP 2

Equalize the value of the "Budi" section in both comparisons

In the first comparison, Budi's share = 4

In the second comparison, Budi's share = 6

To equate, find the LCM (Least Common Multiple) of 4 and 6.

LCM of 4 and 6 = 12

STEP4:

Combine into three comparisons

Now I have:

$$\text{Andi} = 15$$

$$\text{Budi} = 12$$

$$\text{Image} = 10$$

For:

✓ Andi : Budi : Citra = 15 : 12 : 10



PROBLEM ORIENTATION

Simplify two units into three units

Helping me make sense of a current difficulty

Problem: The ratio of Rafi's study time to Danu's study time is 2 : 3, while the ratio of Danu's study time to Yuni's study time is 3 : 4. Determine the ratio of Rafi's study time : Danu's study time : Yuni's study time.



STEP 1

Write both comparisons

- Rafi : Danu = 3 : 8
- Danu : Yuni = 5 : 7

STEP 3:

Combine into a three-part ratio

◆ Ratio 1 (3 : 8)

To make 8 → 40, multiply by 5:

- Rafi = $3 \times 5 = 15$
- Danu = $8 \times 5 = 40$

New ratio: 15 : 40

◆ Ratio 2 (5 : 7)

To make 5 → 40, multiply by 8:

- Danu = $5 \times 8 = 40$
- Yuni = $7 \times 8 = 56$

New ratio: 40 : 56

STEP 2

Make the "Danu" values the same

In the two ratios:

- Danu = 8
- Danu = 5

To combine the ratios, the value for Danu must be equal. Find the LCM (Least Common Multiple) of 8 and 5 is 40

STEP4:

Combine the three values

Now I have:

- Rafi = 15
- Danu = 40
- Yuni = 56

So the combined ratio is:

★ Rafi : Danu : Yuni = 15 : 40 : 56





CONCLUSION



After you have identified the problems, could you provide a summary of how to convert two ratios into three ratios?

Answer :

Which part of the material makes sense to you?

and Why ?

Do you have any questions?