

# Unit Transfer Method

## Primary 5

Before & After

Lesson 4: All Changing Quantities

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## LESSON 4: ALL CHANGING QUANTITIES

### DEFINITION

All quantities change.

Before: Ali has \$10 and Ben has \$35.

Change: Ali spent \$3 and Ben spent \$8.

After: Does Ali's money Before and After changes? (Yes / No)

Does Ben's money Before and After changes? (Yes / No)

Does Ali's Total money Before and After changes? (Yes / No)

Does Ben's Total money Before and After changes? (Yes / No)

Does Ali's Difference in money Before and After changes? (Yes / No)

Does Ben's Difference in money Before and After changes? (Yes / No)

	Ali	Ben	Total	Diff
Before				
Change				
After				

Conclusion:

A modified version of Unit Transfer Method is used to solve the problem.

**BEFORE YOU BEGIN**

Let's start with a simple example to illustrate how positive and negative model can be label:-

**LABEL OF MODEL**

**40 units**

**40 units + 4**

**40 units - 4**

**COMPARISON MODEL**

Find the value of 1 unit for the following:-

a) **Positive Statement:**

$$3u + 8 = 5u + 2$$

b) **Negative Statement (I):**

$$3u + 6 = 5u - 2$$

c) **Negative Statement (II):**

$$3u - 2 = 5u - 6$$

**GUIDED EXAMPLE 1**

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Ibrahim and Jacky had an equal number of stamps at first.  
After Ibrahim gave away 20 stamps and Jacky bought 32 stamps,  
Jacky had thrice as many stamps as Ibrahim.  
How many stamps did Ibrahim have at first?

**GUIDED EXAMPLE 2**

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At a contest, there were an equal number of male and female participants.

After the first round, 8 female and 12 male participants lost the contest.

In the end, there were thrice as many female participants as male participants.

How many female participants were there at first?

**GUIDED EXAMPLE 3**

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The ratio of Fann's money to Sandy's money is 1 : 2.

If Fann save another \$15 while Sandy spends \$14,

the new ratio of Sandy's money to Fann's money becomes 5 : 8.

What is the total amount of money they have in the end?



**GUIDED EXAMPLE 4**

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There were  $\frac{2}{3}$  as many beads in Box A as in Box B.

After 8 beads were added into Box A  
and 5 beads were removed from Box B,

Box A had  $\frac{4}{5}$  as many beads as Box B.

Find the number of beads in Box B in the end.

**GUIDED EXAMPLE 5**

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A fund raising campaign lasted 2 weeks.

In the first week, Team A raised 300% more money than Team B.

In the second week, Team A raised another \$240 while Team B raised another \$160.

As a result, the total amount of money raised by Team A was 300% that of Team B.

What was the total amount of money raised by the two teams?

**BUILD YOUR UNDERSTANDING**

1. Jack and Marcus received an equal amount of money.  
After Jack spent \$70 and Marcus spent \$210,  
the ratio of Marcus' money became 0.5 times that of Jack's money.  
How much money did each boy receive at first?

2. In a shop, the ratio of the number of chocolates to the number of lollipops was 4 : 7. After another 586 chocolates and 76 lollipops were added, there was an equal number of chocolates and lollipops. How many lollipops were there in the end?

3. Ali had  $\frac{2}{3}$  as many Singapore stamps as Malaysian stamps at first.  
He gave 12 Singapore stamps and 29 Malaysian stamps to his brother.  
As a result, the ratio of the number of Singapore stamps to the number of Malaysian stamps became 7 : 5. How many stamps were there in the end?

4. There were 4 times as many apples as there were oranges in a box.  
If 60 additional apples and 5 additional oranges were put into the box,  
the new number of apples will become 6 times the new number of oranges in the box.  
How many apples were there in the box at first?

5. Rachel collects dolls. The number of Barbie dolls she has was  $\frac{1}{5}$  the total number of dolls in her collection. When Rachel gave away 6 Barbie dolls and bought 16 other dolls, the number of Barbie dolls became  $\frac{1}{7}$  the total number of dolls in her collection. Find out how many Barbie dolls she had in the end.