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Class 4

Chapter Five

[First read the textbook, every line, every basic topic of chapter 5]

What is mathematical sentence?

A sentence which belongs only numeral (1, 2, 3...), operational (+, -, ×, ÷), relation (=, <, >) symbols and brackets is called mathematical sentence.

Example:

$$4 \times 5 = 20$$

$$(3+4) \times 5 = 35$$

Making mathematical sentence:

1. Robin buys rice of 350 taka, Beef of 500 taka and vegetables of 85 taka. Make a mathematical sentence to calculate the total cost and solve it.

Answer:

$$\begin{aligned} \text{The mathematical sentence} &= 350 + 500 + 85 \\ &= 935 \end{aligned}$$

So, the answer is 935 taka.

[This word problem is just like the problem you solved in Addition and Subtraction chapter. Here it's easier than before. Here you have to write only the calculation part.]

2. Keya has 1000 taka. She gave 270 taka to her brother and 315 taka to her sister. Write a mathematical sentence to calculate how much money she has now and solve it.

Answer:

$$\begin{aligned} \text{The mathematical sentence} &= 1000 - 270 - 315 \\ &= 730 - 315 \\ &= 415 \end{aligned}$$

So the answer is 415 taka.

[Here you will get your remaining money by subtracting your giving money 270 taka and 315 taka from your total money 1000 taka.]

3. A bag contains biscuits of 200 taka and cake of 50 taka. How many boxes can you buy by 750 taka? Express the problem to a single mathematical sentence and solve it.

Answer:

$$\begin{aligned}\text{The mathematical sentence} &= 750 \div (200+50) \\ &= 750 \div 250 \\ &= 3\end{aligned}$$

So the answer is 3.

[Surrounding with 1st bracket "()" means first you have to find out the total cost of a bag with biscuits and cake and then you have to calculate the number of bags by dividing total money(750) by cost of a bag(250).]

4. Price of a notebook is 30 taka and a pen is 5 taka. How much is the cost of 3 notebooks and 7 pens? Try to make mathematical sentence using bracket '()' for the problem.

Answer:

$$\begin{aligned}\text{The mathematical sentence} &= (30 \times 3) + (5 \times 7) \\ &= 90 + 35 \\ &= 125\end{aligned}$$

So, the answer is 125 taka.

[Using of two brackets indicate that first you have to find out the price of 3 notebooks and 7 pens separately. Then you have to add them for the total cost.]

Similar problems to do:

Textbook: pages 58, 59, 60, 61, Exercise page 65 > 3(All)

Question 3(2) is different. So the answer is given below:

Given, Remainder = 2

$$\begin{aligned}\text{Divisor} &= 3 \text{ times the remainder} \\ &= 3 \times \text{remainder}\end{aligned}$$

$$= 3 \times 2$$

$$= 6$$

Quotient = 4 times the divisor

$$= 4 \times \text{divisor}$$

$$= 4 \times 6$$

$$= 24$$

Now we know, dividend = divisor \times quotient + remainder

$$= 6 \times 24 + 2$$

$$= 144 + 2$$

$$= 146$$

Another Idea of calculating Question No 1 and 2:

1. $350+(500+85)$ 2. $1000-(270+315)$

$$= 350+585$$

$$= 1000-585$$

$$= 935$$

$$= 415$$

Here same results are found calculating Q1 and Q2.

Calculate and compare this type of two ideas from the Textbook page 60.

Rules for Calculation order:

B O D M A S

B= Brackets [{}()]

O= Work of "of" [It works like multiplication.]

D= Division

M= Multiplication

A= Addition

S= Subtraction

[Note: For calculating a mathematical sentence, first you have to do calculation inside the bracket, then Division, Multiplication, Addition and lastly Subtraction. Always you have to maintain this calculation order to get proper result. If there is any operation (bracket or ÷ or × or +) missing in the mathematical sentence, you have to do the next operation.]

Examples:

$$\begin{aligned} 1. & 8 \times 7 + 9 \div 3 \\ & = 8 \times 7 + 3 \\ & = 56 + 3 \\ & = 59 \end{aligned}$$

$$\begin{aligned} 2. & 15 - 8 \div 2 \times 3 \\ & = 15 - 4 \times 3 \\ & = 15 - 12 \\ & = 3 \end{aligned}$$

$$\begin{aligned} 3. & 9 \div (4 \times 5 - 17) \\ & = 9 \div (20 - 17) \\ & = 18 \div 3 \\ & = 6 \end{aligned}$$

Similar problems to do:

$$(8+7) \times 2 - 15$$

$$12 \div (5 \times 2 - 4)$$

$$16 + 4 \times 2 - 10$$

Textbook page 62, Exercise page 65 > 1(All)

Rules for calculation:

Rule#1:

$$(A + B) \times C = A \times C + B \times C \quad \text{where A, B and C can be any Number (1, 2, 3,...).}$$

Example:

$$\begin{aligned}
 (5 + 6) \times 3 &= 5 \times 3 + 6 \times 3 \\
 &= 15 + 18 \\
 &= 33
 \end{aligned}$$

Rule#2:

$$(A - B) \times C = A \times C - B \times C$$

Example:

$$\begin{aligned}
 (8 - 6) \times 5 &= 8 \times 5 - 6 \times 5 \\
 &= 40 - 30 \\
 &= 10
 \end{aligned}$$

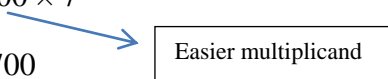
Some other rules to calculate:

Finding an alternative easier way to calculate:

We know,

$$\text{Multiplicand} \times \text{Multiplier} = \text{Product}$$

We will try to find easier multiplicand or multiplier like 10, 100, 1000 and so.

$$\begin{aligned}
 20 \times 35 &= 20 \times (5 \times 7) \\
 &= (20 \times 5) \times 7 \\
 &= 100 \times 7 \\
 &= 700
 \end{aligned}$$


$$\begin{aligned}
 99 \times 11 &= (100 - 1) \times 11 \\
 &= 100 \times 11 - 1 \times 11 \text{ [using Rule\#2]} \\
 &= 1100 - 11 \\
 &= 1089
 \end{aligned}$$

Similar problems to do:

Textbook page 64, Exercise page 65 > 2(All)

Solutions of some different exercise Word problems:

4. Rupa has = $(875 - 125) \div 2$ taka

$$= 750 \div 2 \text{ taka}$$

$$= 375 \text{ taka}$$

So Moni has = $375 + 125$ taka

$$= 500 \text{ taka}$$

Or

Rupa and Moni have = 875 taka

Moni has more = 125 taka

 [By subtracting]

They equally have = 750 taka

Therefore Rupa has = $(750 \div 2)$

$$= 375 \text{ taka}$$

Moni has = $(375 + 125)$ taka

$$= 500 \text{ taka}$$

5. Son's age = 1 time

Father's age = 4 times

 = 5 times

So Son's age = $(55 \div 5)$ years

$$= 11 \text{ years}$$

Father's age = 11×4 years

$$= 44 \text{ years}$$

End