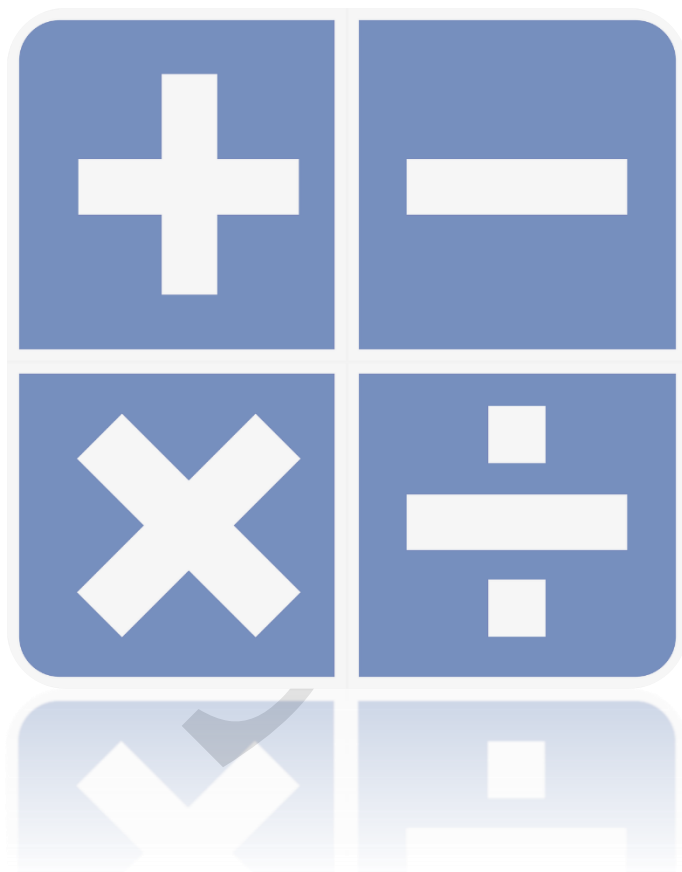


4 Operations of Whole Number

Focus on
Problem
Solving
(P4)



Holiday Programme
(Dec 2025)

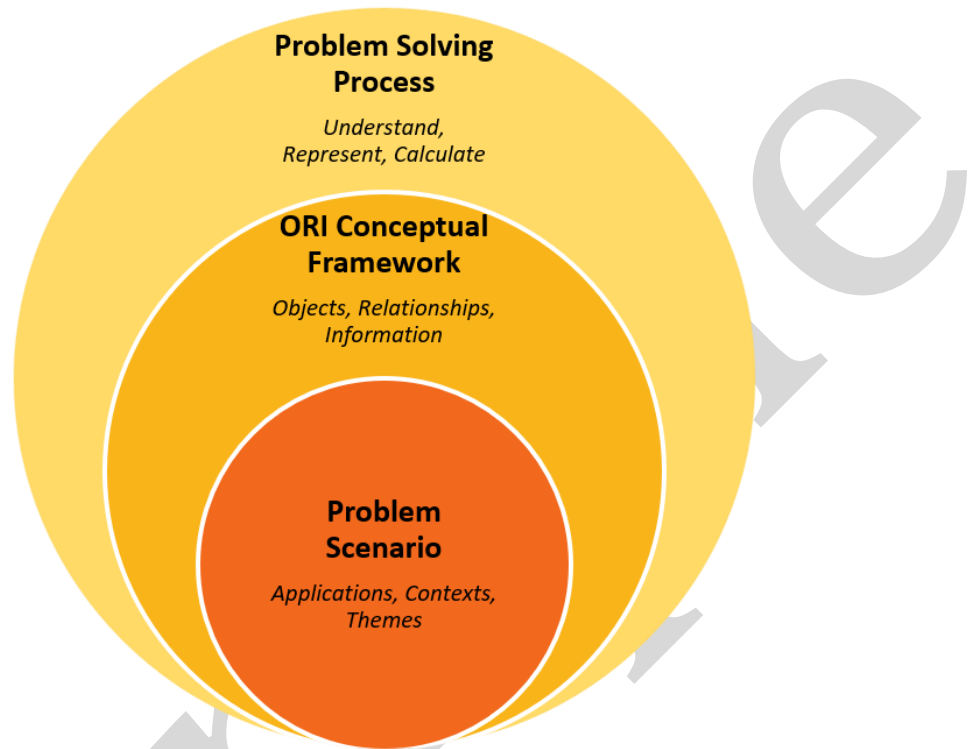
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Relational Concepts Approach (RCA)

The Relational Concepts Approach (RCA) is a structured way of solving mathematical word problems.

It encourages learners to first **understand the underlying relationships** and present them in **clear and concise representations** before carrying out any computations.



Our proprietary **ORI Conceptual Framework** forms the core of the approach.

It guides learners to systematically break down a word problem to identify the mathematical **objects** involved, their **relationships** and the **information** provided.

Multiplications & Divisions

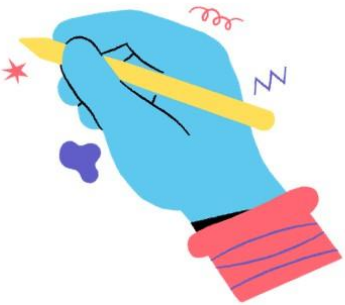
1 Math Essentials

1.1 Multiplications by 1-Digit Numbers

Let's Learn

Multiplication by 1-Digit Number

Calculate 2164×4 .



	Thousands	Hundreds	Tens	Ones
$\times$	2	1	6	4
	8	6	5	6

Multiply from right to left.

Step 1

Multiply the ones.
 $4 \text{ ones} \times 4 = 16 \text{ ones} = 1 \text{ ten } 6 \text{ one}$

Step 2

Multiply the tens.
 $6 \text{ tens} \times 4 = 24 \text{ tens}$
 Add 1 ten.
 $24 \text{ tens} + 1 \text{ ten} = 25 \text{ tens} = 2 \text{ hundreds } 5 \text{ tens}$

Step 3

Multiply the hundreds.
 $1 \text{ hundred} \times 4 = 4 \text{ hundreds}$
 Add 2 hundreds.
 $4 \text{ hundreds} + 2 \text{ hundreds} = 6 \text{ hundreds}$

Step 4

Multiply the thousands.
 $2 \text{ thousands} \times 4 = 8 \text{ thousands}$

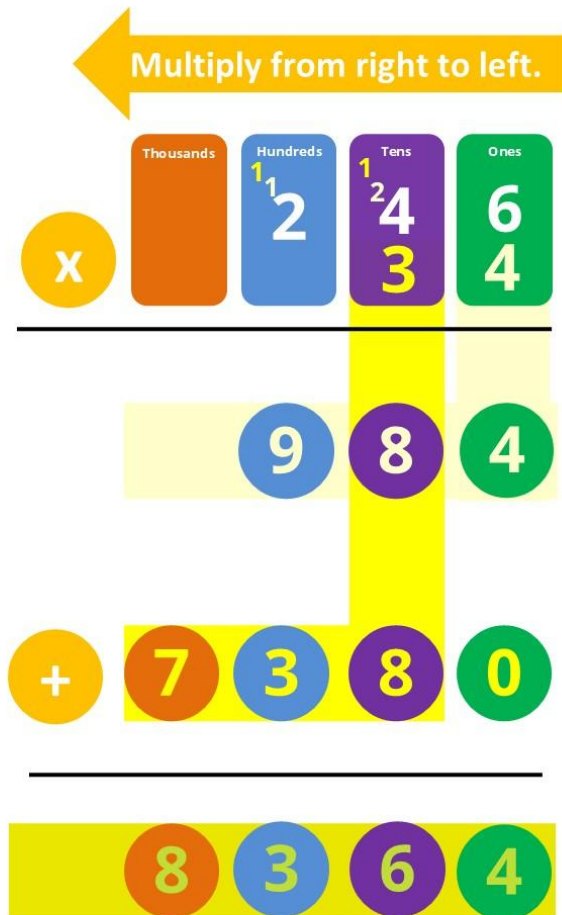
So, $2164 \times 4 = 8656$.

1.2 Multiplications by 2-Digits Numbers

Let's Learn

Multiplication by 2-Digits Number

Calculate 246×34 .



Step 1

Multiply 246 by 4.

- i. $6 \text{ ones} \times 4 = 24 \text{ ones} = 2 \text{ tens } 4 \text{ ones}$
- ii. $4 \text{ tens} \times 4 = 16 \text{ tens} = 1 \text{ hundred } 6 \text{ tens}$
 $6 \text{ tens} + 2 \text{ tens} = 8 \text{ tens}$
- iii. $2 \text{ hundreds} \times 4 = 8 \text{ hundreds}$
 $8 \text{ hundreds} + 1 \text{ hundred} = 9 \text{ hundreds}$

Step 2

Multiply 246 by 30.

- i. $6 \text{ ones} \times 30 = 180 \text{ ones} = 1 \text{ hundred and } 8 \text{ tens}$
- ii. $4 \text{ tens} \times 30 = 120 \text{ tens} = 1 \text{ thousand } 2 \text{ hundreds}$
 $2 \text{ hundreds} + 1 \text{ hundred} = 3 \text{ hundreds}$
- iii. $2 \text{ hundreds} \times 30 = 60 \text{ hundreds}$
 $= 6 \text{ thousands}$
 $6 \text{ thousands} + 1 \text{ thousand} = 7 \text{ thousands}$

Step 3

Add.
 $984 + 7380 = 8364$

So, $246 \times 34 = 8364$.



1.3 Divisions by 1-Digit Numbers

Let's Learn

Division with 4-Digit Number with Remainder

Divide 9237 by 6.



	Thousands	Hundreds	Tens	Ones
Divisor	6			
Dividend	9	2	3	7
Quotient	3	2		
Remainder	3	0		
Quotient		2	3	
Remainder		1	8	
Quotient			5	7
Remainder			5	4
Quotient				3

Divide from left to right

Step 1
Divide the thousands:
 $9 \text{ thousands} \div 6 = 1 \text{ thousand with a remainder of } 3 \text{ thousands.}$

Step 2
Regroup the remainder thousands: $3 \text{ thousands} = 30 \text{ hundreds}$
Add the hundreds: $30 \text{ hundreds} + 2 \text{ hundreds} = 32 \text{ hundreds}$
Divide the hundreds:
 $32 \text{ hundreds} \div 6 = 5 \text{ hundreds with a remainder of } 2 \text{ hundreds.}$

Step 3
Regroup the remainder hundreds: $2 \text{ hundreds} = 20 \text{ tens}$
Add the tens: $20 \text{ tens} + 3 \text{ tens} = 23 \text{ tens}$
Divide the tens: $23 \text{ tens} \div 6 = 3 \text{ tens with a remainder of } 5 \text{ tens}$

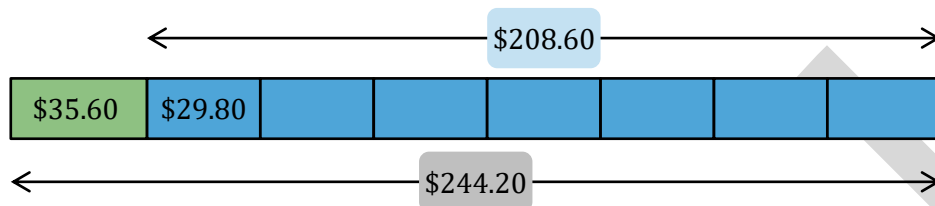
Step 4
Regroup the remainder tens: $5 \text{ tens} = 50 \text{ ones}$
Add the ones: $50 \text{ ones} + 7 \text{ ones} = 57 \text{ ones}$
Divide the ones: $57 \text{ ones} \div 6 = 9 \text{ ones with a remainder of } 3.$

So, $9237 \div 6 = 1539 \text{ R } 3.$

2 Problem Solving: Items with Values in Unequal Parts

Let's Relate

- 1 A shirt cost \$35.60 and a tie cost \$29.80.
John bought a shirt and 7 ties.
He spent \$35.60 on the shirt and \$208.60 on the ties.
- He spent \$244.20 in all.



The ORI Table

Type of Objects:	Items (Numbers)/ with Values/ with Measurements
Parts of Objects:	No Parts/ Unequal Parts/ Equal Parts/ with Subparts
Comparison:	Yes/ No
Changes:	Yes/ No

Type of Questions

Type	Question	Information Given/ Implied				
		Item1	Item2		Toal	
		Value	Quan	Unit Val	Value	Value
1	A shirt cost \$35.60 and a tie cost \$29.80. John bought a shirt and 7 ties. How much did John spend altogether?	✓	✓	✓		
2	The shirt cost \$35.60. John spent \$244.20 on a shirt and 7 ties. How much did a tie cost?	✓	✓			✓
3	John spent \$243.60 on a shirt and some ties. A shirt cost \$35.60 and a tie cost \$8.00. How many ties did he buy?	✓		✓		✓

2.1 Type 1 Questions

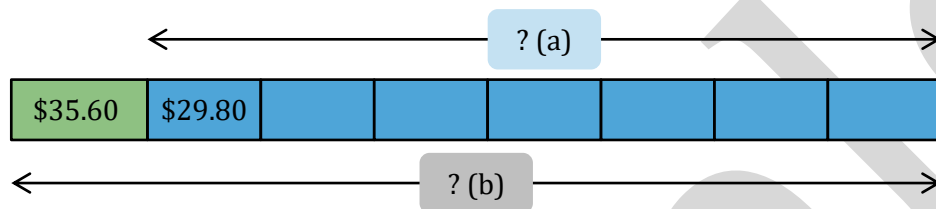
Let's Learn

1 A shirt cost \$35.60 and a tie cost \$29.80.

John bought a shirt and 7 ties.

(a) How much did John spend on the ties?

(b) How much did John spend altogether?



(a) 1 Tie → 29.80

7 Ties → 29.80 × 7 = 208.60

He spent \$208.60 on the ties.

(b) 35.60 + 208.60 = 244.20

He spent \$244.20 altogether.

Practice 2.1

1 A notebook cost \$12.10 and a pen cost \$5.30.

Ben bought a notebook and 13 pens.

(a) How much did Ben spend on the pens?

(b) How much did Ben spend altogether?



(a) →

→ ○ =

He spent on the pens.

(b) ○ =

He spent altogether.

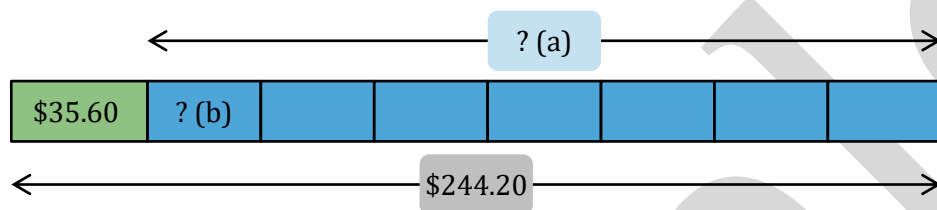
- 2 A bottle cost \$89.20 and a cup cost \$21.30.
Millie bought a bottle and 62 cups.
How much did Millie spend altogether?

- 3 A ring cost \$899.95 and a bracelet cost \$82.90.
Maddy bought a ring and 99 bracelets.
How much did Maddy spend altogether?

2.2 Type 2 Questions

Let's Learn

- 1 The shirt cost \$35.60.
John spent \$244.20 on a shirt and 7 ties.
- (a) How much did John spend on the ties?
- (b) How much did a tie cost?



(a) $244.20 - 35.60 = 208.60$

He spent \$208.60 on the ties.

(b) $7 \text{ Ties} \rightarrow 208.6$

$$1 \text{ Tie} \rightarrow 208.60 \div 7 = 29.80$$

A tie cost \$29.80 .

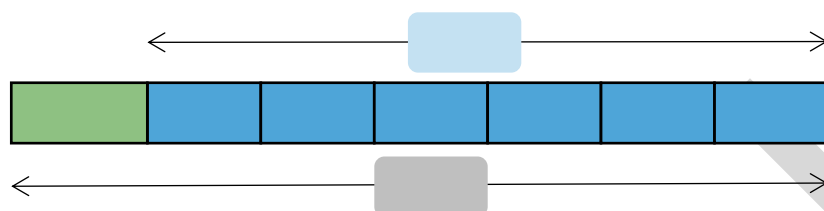
Practice 2.2

1 The jacket cost \$48.75.

Emma spent \$341.25 on a jacket and 6 scarves.

(a) How much did Emma spend on the scarves?

(b) How much did a scarf cost?



(a) $\times$ =

She spent on the scarves.

(b) $\rightarrow$
 $\rightarrow$ $\times$ =

A scarf cost .

- 2 The pair of shoes cost \$299.80.
Liam spent \$678.40 on a pair of shoes and 5 belts.
How much did a belt cost?

- 3 The handbag cost \$1633.20.
Sophia spent \$3127.20 on a handbag and 8 purses.
How much did a purse cost?

2.3 Type 3 Questions

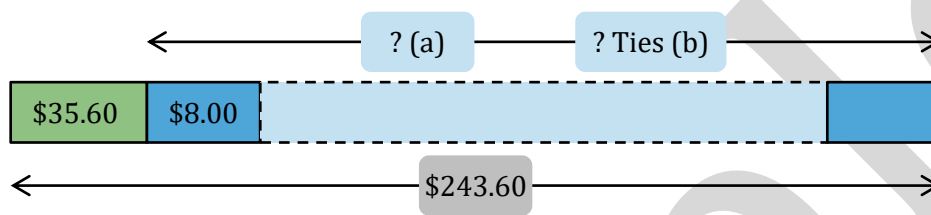
Let's Learn

1 John spent \$243.60 on a shirt and some ties.

A shirt cost \$35.60 and a tie cost \$8.00.

(a) How much did John spend on the ties?

(b) How many ties did he buy?



(a) $243.60 - 35.60 = 208.00$

He spent \$208.00 on the ties.

(b) $208.00 \div 8 = 26$

He bought 26 ties.

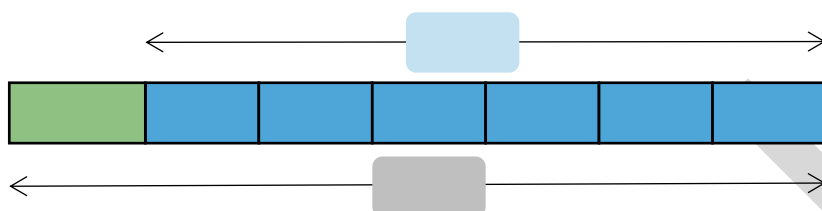
Practice 2.3

1 The jacket cost \$48.75.

Emma spent \$341.25 on a jacket and 6 scarves.

(a) How much did Emma spend on the scarves?

(b) How much did a scarf cost?



(a) $\div$ =

She spent on the scarves.

(b) $\rightarrow$

$\rightarrow$ $\div$ =

A scarf cost .

- 2 Brian spent \$1248.60 on a suit and some shirts.
A suit cost \$348.60 and a shirt cost \$9.
How many shirts did he buy?

- 3 Nina spent \$88 007.00 on a car and some car stickers.
The car cost \$87 623.00 and a car sticker cost \$6.00.
How many car stickers did she buy?