

3. Subtraction

Subtraction of 4-digit numbers

① Subtraction without regrouping.

Method 1. using place values

Th	H	T	O
3	4	1	9
- 2	2	1	5
1	2	0	4

Method 2. Using the expanded form

$$\begin{aligned}
 3419 &= 3000 + 400 + 10 + 9 \\
 - 2215 &= 2000 + 200 + 10 + 5 \\
 \hline
 &1000 + 200 + 0 + 4 = 1,204
 \end{aligned}$$

I Can 3A

① done in TB

② Arrange in columns and subtract

a) 1625 from 3768

Th	H	T	O
3	7	6	8
- 1	6	2	5
2	1	4	3

b) 3240 from 8652

Th	H	T	O
8	6	5	2
- 3	2	4	0
5	4	1	2

c) 1202 from 6346

Th	H	T	O
6	3	4	6
- 1	2	0	2
5	1	4	4

② Subtraction with regrouping (borrowing)

Th	H	T	O
^⑧ 9	^⑪ 2	^⑭ 8	^⑮ 4
- 6	5	9	4
2	6	5	7

I can 3B

① done in TB

② Arrange in columns and subtract

a) 3128 and 9298

Th	H	T	O
9	2	9	8
- 3	1	2	8
6	1	7	0

b) 3847 and 5734

Th	H	T	O
^④ 8	^⑬ 4	^⑫ 8	^⑭ 7
- 3	8	4	7
1	8	8	7

c) 1825 and 6914

Th	H	T	O
6	9	^⑩ 1	^⑭ 4
- 1	8	2	5
5	0	8	9

d) 2341 and 6000

Th	H	T	O
^⑤ 8	^⑦ 0	^⑨ 0	^⑪ 0
- 2	3	4	1
3	6	5	9

e) 1875 and 3060

Th	H	T	O
^② 8	^④ 0	^⑬ 6	^⑮ 0
- 1	8	7	5
1	1	8	5

f) 3999 and 8200

Th	H	T	O
^⑦ 8	^⑪ 2	^⑩ 0	^⑮ 0
- 3	9	9	9
4	2	0	1

Properties of Subtraction.

- Subtracting a number from itself (difference comes 0)
- Subtracting 0 from a number (we get answer as same no.)
- order property (bigger no. should always first written)
- Subtraction of 1 (we get predecessor of the no.)

Checking Addition and Subtraction

① Checking addition by subtraction →

Ex: Add 4219 and 2304

Th	H	T	O		Th	H	T	O
4	2	1	9		6	5	2	3
+	2	3	0	4	-	2	3	0
	6	5	2	3		4	2	1

Addend
Sum

② checking Subtraction by addition →

Ex: Subtract 4219 from 9708

Th	H	T	O		Th	H	T	O
9	7	0	8		5	4	8	9
-	4	2	1	9	+	4	2	1
	5	4	8	9		9	7	0

Minuend
Subtrahend
Difference

Relation between addition and subtraction facts

$$\Rightarrow 1212 + 1417 = 2629$$

we have $2629 - 1212 = 1417$

and $2629 - 1417 = 1212$ as two subtraction facts.

I can 30

① Done in TB

② Write two Subtraction facts for each of the following

a) $4627 + 2988 = 7615$

→ $7615 - 4627 = 2988$ and $7615 - 2988 = 4627$

b) $6172 + 1234 = 7406$

→ $7406 - 6172 = 1234$ and $7406 - 1234 = 6172$

c) $2345 + 4128 = 6473$

→ $6473 - 2345 = 4128$ and $6473 - 4128 = 2345$

d) $3115 + 5123 = 8238$

→ $8238 - 3115 = 5123$ and $8238 - 5123 = 3115$

③ Find the sums and check your answers using subtraction.

a) $3583 + 2808$

3	5	8	3
+	2	8	0
	6	3	9

checking using Subtraction

3	5	8	3
-	2	8	0
	3	5	8

b) $1936 + 887$

1	9	3	6
+	8	8	7
	2	8	2

checking using Subtraction

1	9	3	6
-	8	8	7
	1	9	3

c) $4356 + 2113$

4	3	5	6
+	2	1	1
	6	4	6

check

6	4	6	9
-	2	1	1
	4	3	5

d) $4123 + 1234$

$$\begin{array}{r} 4123 \\ + 1234 \\ \hline 5357 \end{array}$$

check.

$$\begin{array}{r} 5357 \\ - 1234 \\ \hline 4123 \end{array}$$

e) $5000 + 2045$

$$\begin{array}{r} 5000 \\ + 2045 \\ \hline 7045 \end{array}$$

check.

$$\begin{array}{r} 7045 \\ - 2045 \\ \hline 5000 \end{array}$$

f) $7707 + 1006$

$$\begin{array}{r} 7707 \\ + 1006 \\ \hline 8713 \end{array}$$

check

$$\begin{array}{r} 8713 \\ - 1006 \\ \hline 7707 \end{array}$$

④ Find the difference and check your answers using addition

a) $4627 - 2988$

$$\begin{array}{r} 4627 \\ - 2988 \\ \hline 1639 \end{array}$$

check by addition

$$\begin{array}{r} 1639 \\ + 2988 \\ \hline 4627 \end{array}$$

b) $5000 - 3133$

$$\begin{array}{r} 5000 \\ - 3133 \\ \hline 1867 \end{array}$$

check

$$\begin{array}{r} 1867 \\ + 3133 \\ \hline 5000 \end{array}$$

c) $6809 - 3984$

$$\begin{array}{r} 6809 \\ - 3984 \\ \hline 2825 \end{array}$$

check

$$\begin{array}{r} 2825 \\ + 3984 \\ \hline 6809 \end{array}$$

d) $9009 - 9009$

$$\begin{array}{r} 9009 \\ - 9009 \\ \hline 0000 \end{array}$$

check.

$$\begin{array}{r} 0000 \\ + 9009 \\ \hline 9009 \end{array}$$

e) $5739 - 2300$

$$\begin{array}{r} 5739 \\ - 2300 \\ \hline 3439 \end{array}$$

check

$$\begin{array}{r} 3439 \\ + 2300 \\ \hline 5739 \end{array}$$

f) $7727 - 1000$

$$\begin{array}{r} 7727 \\ - 1000 \\ \hline 6727 \end{array}$$

check

$$\begin{array}{r} 6727 \\ + 1000 \\ \hline 7727 \end{array}$$

⑤ Addition and Subtraction together
we come across problems where both addition and subtraction are involved. In such cases, we first add and then subtract.

I can 3D

① Solve the following

a) $4237 - 198 + 617$

Step 1. Addition

$$\begin{array}{r} 4237 \\ + 617 \\ \hline 4854 \end{array}$$

Step 2. Subtraction

$$\begin{array}{r} 4854 \\ - 198 \\ \hline 4656 \end{array}$$

$\therefore 4237 - 198 + 617 = 4656$

$$b) 3635 + 511 - 869$$

Step 1. Addition

$$\begin{array}{r} 3635 \\ + 511 \\ \hline 4146 \end{array}$$

Step 2. Subtraction

$$\begin{array}{r} 4146 \\ - 869 \\ \hline 3277 \end{array}$$

$$\therefore 3635 + 511 - 869 = 3277$$

$$c) 4809 - 2491 + 227$$

Step 1. Addition

$$\begin{array}{r} 4809 \\ + 227 \\ \hline 5036 \end{array}$$

Step 2. Subtraction

$$\begin{array}{r} 5036 \\ - 2491 \\ \hline 2545 \end{array}$$

$$\therefore 4809 - 2491 + 227 = 2545$$

$$d) 2853 + 3172 - 3535$$

Step 1. Addition

$$\begin{array}{r} 2853 \\ + 3172 \\ \hline 6025 \end{array}$$

Step 2. Subtraction

$$\begin{array}{r} 6025 \\ - 3535 \\ \hline 2490 \end{array}$$

$$\therefore 2853 + 3172 - 3535 = 2490$$

$$e) 1240 - 1323 + 927$$

Step 1. Addition

$$\begin{array}{r} 1240 \\ + 927 \\ \hline 2167 \end{array}$$

Step 2. Subtraction

$$\begin{array}{r} 2167 \\ - 1323 \\ \hline 844 \end{array}$$

$$\therefore 1240 - 1323 + 927 = 844$$

$$f) 5333 - 2222 + 4309$$

Step 1. Addition

$$\begin{array}{r} 5333 \\ + 4309 \\ \hline 9642 \end{array}$$

Step 2. Subtraction

$$\begin{array}{r} 9642 \\ - 2222 \\ \hline 7420 \end{array}$$

$$\therefore 5333 - 2222 + 4309 = 7420$$

(2) A fest is a gathering devoted to an activity or interest. for ex. a Yoga fest could be organised for following reasons.

- To bring awareness about healthy lifestyle
- To enhance the knowledge of yoga among the masses
- To educate people on the scientific aspects of yoga
- To create opportunities for people to meet experts in the field.

around 9,630 people attended a yoga fest in Delhi out of those, 4,210 were men and 3,113 were women. How many children attended the yoga fest?

$$\begin{array}{rcl} \rightarrow \text{No. of people in total} & = & 9,630 \\ \text{No. of men} & = & 4,210 \\ \text{No. of women} & = & 3,113 \end{array}$$

$$\text{Total no. of Adults} = 4210 + 3113$$

$$\begin{array}{r} 4210 \\ + 3113 \\ \hline 7323 \end{array}$$

$$\text{no. of children} = \text{Total people} - \text{total adults}$$

$$= 9,630 - 7,323$$

$$\begin{array}{r} 9,630 \\ - 7,323 \\ \hline 2,307 \end{array} = 2307 \text{ children}$$

I Can 3E

Done in TB

I Can 3F

(Word Problems)

• Solve the following word problems.

① The available balance in Shivani's Savings account was ₹ 8086. She withdrew ₹ 1770.

How much money was left in her account?

→ Available balance in Shivani's Savings account = ₹ 8086

Amount withdrawn = ₹ 1770

$$\begin{array}{r} \textcircled{8} \textcircled{0} \textcircled{8} \textcircled{6} \\ - 1770 \\ \hline \end{array}$$

$$6316$$

∴ ₹ 6316 was left in her account

② The Price of a Washing machine is -

₹ 6290 and that of a mobile phone is ₹ 4450.

Which costs more and by how much?

→ Price of Washing machine = ₹ 6290

Price of mobile phone = ₹ 4450

$$₹ 6290 > ₹ 4450$$

So washing machine costs more.

$$\begin{array}{r} \textcircled{6} \textcircled{2} \textcircled{9} \textcircled{0} \\ - \textcircled{4} \textcircled{4} \textcircled{5} \textcircled{0} \\ \hline \end{array}$$

$$1840$$

The washing machine costs more by ₹ 1840

③ Out of 1408 students in a school, 673 were boys & the rest were girls. How many girls were there in the school?

Total students = 1408

number of boys = 673

$$\therefore \text{Number of girls} = \begin{array}{r} \textcircled{1} \textcircled{4} \textcircled{0} \textcircled{8} \\ - \textcircled{6} \textcircled{7} \textcircled{3} \\ \hline \end{array}$$

$$735$$

$$735$$

There were 735 girls in the school.

④ In a bakery, there was a demand for 1575 pastries during the weekend. But 197 fewer pastries were baked. How many pastries were available for sale?

→ Demand for Pastries = 1575

Fewer Pastries baked = 197

$$\begin{array}{r} \textcircled{1} \textcircled{5} \textcircled{7} \textcircled{5} \\ - \textcircled{1} \textcircled{9} \textcircled{7} \\ \hline \end{array}$$

$$1378$$

$$1378$$

1378 Pastries were available for sale.

⑤ What number should be subtracted from 9000 to get 6723?

Let the unknown number be x .

$$\Rightarrow 9000 - x = 6723$$

$$\Rightarrow x = 9000 - 6723$$

To find x , let us subtract the numbers

$$\begin{array}{r} \textcircled{9} \textcircled{0} \textcircled{0} \textcircled{0} \\ - \textcircled{6} \textcircled{7} \textcircled{2} \textcircled{3} \\ \hline \end{array}$$

$$2277$$

$$2277$$

⑥ what number should be added to 5021 to get 6537
let the unknown number be y .

$$= 5021 + y = 6537$$

To find y , Subtract 5021 from 6537.

$$\Rightarrow y = 6537 - 5021$$

$$\begin{array}{r} 6537 \\ - 5021 \\ \hline 1516 \end{array}$$

⑦ In a 16 GB pen drive there is 16,384 MB of storage space. A man has stored some video and audio files in the pen drive & has used 1,845 MB of storage space. How much storage space is left in the pen drive?

• A 16 GB Pen drive has 16,384 MB of storage space.

1,845 MB of storage space has been used for files.

$$\begin{array}{r} \overset{\textcircled{5} \textcircled{13} \textcircled{7} \textcircled{14}}{16384} \\ - 1845 \\ \hline 14539 \text{ MB} \end{array}$$

I Can 3G

- ① Estimate the difference by rounding each number to the nearest 100 then compare it with the actual difference.

a) $9234 - 2105$

Actual difference

$$\begin{array}{r} 92\overset{\textcircled{2}}{3}\overset{\textcircled{14}}{4} \\ - 2105 \\ \hline 7129 \end{array}$$

Estimated difference

$$\begin{array}{r} 9200 \\ - 2100 \\ \hline 7100 \end{array}$$

c) 4762 - 3945

Actual difference

$$\begin{array}{r} \textcircled{3}4\textcircled{12}\textcircled{5}\textcircled{12} \\ 4762 \\ - 3945 \\ \hline 0817 \end{array}$$

Estimated difference

$$\begin{array}{r} \textcircled{3}4\textcircled{18}00 \\ - 3900 \\ \hline 0900 \end{array}$$

e) 3408 - 1808

Actual difference

$$\begin{array}{r} \textcircled{2}\textcircled{14} \\ 3408 \\ - 1808 \\ \hline 1600 \end{array}$$

estimated difference.

$$\begin{array}{r} \textcircled{2}\textcircled{14} \\ 3400 \\ - 1800 \\ \hline 1600 \end{array}$$

d) 2924 - 2505

Actual difference

$$\begin{array}{r} \textcircled{1}\textcircled{4} \\ 2924 \\ - 2505 \\ \hline 0419 \end{array}$$

estimated difference.

$$\begin{array}{r} 2900 \\ - 2500 \\ \hline 0400 \end{array}$$

e) 2927 - 2712

Actual difference

$$\begin{array}{r} 2927 \\ - 2712 \\ \hline 0215 \end{array}$$

estimated difference

$$\begin{array}{r} 2900 \\ - 2700 \\ \hline 0200 \end{array}$$

f) 2435 - 1245

Actual difference

$$\begin{array}{r} \textcircled{3}\textcircled{13} \\ 2435 \\ - 1245 \\ \hline 1190 \end{array}$$

estimated difference

$$\begin{array}{r} 2400 \\ - 1200 \\ \hline 1200 \end{array}$$

② Rohan's School is 9256 m from his home and Rehan's School is 6789 m from his home. Estimate the difference between the two distances to the nearest hundreds.

→ • Distance of Rohan's School from home
= 9256 m

• Distance of Rehan's School from home
= 6789 m

• Rounding Rohan's School distance to the nearest hundreds = 9300 m

• Rounding Rehan's School distance to the nearest hundreds = 6800 m

• Estimated difference = $9300 - 6800$
= 2500 m