

1.6 Adding and Subtracting Numbers

Activity: Interpret the Map

Fansaway Tours offers baseball fans a bus trip. You book a tour from Niagara Falls, with stops for baseball games in Toronto, Detroit, and Cleveland. The distances are given on the map. You want to know the total distance you will travel.

Inquire

1. Do you need an exact or approximate answer?
2. Estimate the distance you will travel.
3. Choose a calculation method and calculate the distance you will travel.
4. Is your estimate close to your calculated value?

Example

Another tour leaves from Niagara Falls for games in Toronto and Montreal. The bus then returns to Niagara Falls. At the start of the trip, the odometer on the bus reads 47 681.4 km. At the end, it reads 49 024.1 km. How far was the trip?

Solution

To find the difference, we *subtract*.

Paper and Pencil

$$\begin{array}{r} 49\,024.1 \\ -47\,681.4 \\ \hline 1\,342.7 \end{array}$$

Estimate (by rounding to the nearest 1000)

$$\begin{array}{r} 49\,024.1 \longrightarrow 49\,000 \\ -47\,681.4 \longrightarrow -48\,000 \\ \hline 1\,000 \end{array}$$

Calculator $\text{C } 49024.1 \text{ - } 47681.4 \text{ = } 1342.7$

The trip was 1342.7 km.

- Why did we round to the nearest thousand and not the nearest ten thousand to estimate?
- Why did we not round to the nearest 100 to estimate?

Practice

Add.

1. $567 + 879$
2. $56.7 + 98.9$
3. $34\,698 + 4545$
4. $1.23 + 8.79$
5. $678.9 + 88.85$
6. $457\,678 + 23\,940$

Subtract.

7. $876 - 435$
8. $3005 - 789$
9. $45.7 - 21.6$
10. $67.2 - 34.65$
11. $8.23 - 5.613$
12. $4193 - 458.1$

Calculate.

13. $4560 + 700 + 7123$
14. $23.47 - 9.87$
15. $103 + 306 + 402 - 701$
16. $129.08 + 332.2 + 2.32 + 40.05$

Find ■ .

17. ■ = $5467 + 136$
18. ■ = $34.21 - 8.93$
19. ■ = $101 + 234 + 12$
20. $23.4 + 89.1 + 20.1 =$ ■

Find the missing numbers.

$$\begin{array}{r} 21. \begin{array}{r} 567 \\ + \blacksquare \\ \hline 983 \end{array} \quad 22. \begin{array}{r} 4510 \\ + \blacksquare \\ \hline 7613 \end{array} \quad 23. \begin{array}{r} 459 \\ - \blacksquare \\ \hline 132 \end{array} \quad 24. \begin{array}{r} 6581 \\ - \blacksquare \\ \hline 3002 \end{array} \end{array}$$

Problems and Applications

25. The odometer on the Chan car reads 234 787.8 km. The odometer on the Bean car reads 198 450.9 km. How much farther have the Chans driven?
26. A baker has 4.5 kg of sugar. He uses 1.85 kg in one recipe and 2.2 kg in another. Does he have enough sugar left to bake a cake that needs 0.55 kg?

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27. Saturn is 1 425 000 000 km from the sun. Uranus is 4 497 000 000 km from the sun. How much farther from the sun is Uranus?

28. Three classes from Centennial school went to the museum. The total cost was \$408.50. Teachers had collected \$42.75, \$61.50, and \$90.25 from the students. How much more was needed?

29. A train arrived at Bay Street station with 1203 people on board. At the station, 236 people got on the train and 197 got off. How many were on board when it left the station?

30. In 1984, Sylvie Bernier won an Olympic gold medal for Canada in springboard diving by scoring 530.70 points. Four years later, Min Gao from China won the gold by scoring 580.23 points. Who had the higher score? How much higher was it?

31. The East Side Boys and Girls Club spent \$784.79 for a television, \$456.50 for a sofa, and \$276.98 for an entertainment centre. How much was spent altogether?

32. Write a problem that uses addition or subtraction and the values \$94.67, \$256.23, and \$456.80. Ask a classmate to solve your problem.

WORD POWER

- Change the first word to the second word by changing one letter at a time. Each time you change a letter, you must form a real word. Write down the words you form and compare with a classmate.
- F A N

A I R