Year 4 Mathematics

Addition Skills Workshop

Worksheet 7: Algorithms & Regrouping

Name: _____ **Date:** _____

Section 1: Fluency - Vertical Addition

Use the standard algorithm to add these numbers. Remember to regroup when needed!

1. Calculate:

$$345 + 287$$

3	4	5
+ 2	8	7

Answer: _____

2. Calculate:

$$526 + 198$$

5	2	6
+ 1	9	8

Answer: _____

1

3. Calculate:

$$1,456 + 2,378$$

1	4	5	6
+ 2	3	7	8

Answer: _____

4. Calculate:

$$3,847 + 1,965$$

3	8	4	7
+ 1	9	6	5

Answer: _____

5. Calculate:

$$678 + 455$$

6	7	8
+ 4	5	5

Answer: _____

6. Calculate:

$$2,567 + 3,845$$

2

$$\begin{array}{ccccc} & 2 & 5 & 6 & 7 \\ + & 3 & 8 & 4 & 5 \\ \hline & & & & \end{array}$$

Answer: _____

7. Calculate:

$$4,999 + 2,876$$

$$\begin{array}{ccccc} & 4 & 9 & 9 & 9 \\ + & 2 & 8 & 7 & 6 \\ \hline & & & & \end{array}$$

Answer: _____

8. Calculate:

$$789 + 654$$

Answer: _____

Addition Ace!

Why did the plus sign become a superhero?

Because it was always ready to add up to the challenge!

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Section 2: Reasoning - Finding the Missing Digit

Use your addition skills to find the missing digits in these number sentences.

9. In the sum

$$4{,}2\_3 + 1{,}562 = 5{,}825$$

, what is the missing digit?

Answer: _____

10. Find the missing digit:

$$3\_7 + 245 = 632$$

Answer: _____

11. What number belongs in the box?

$$1{,}456 + \boxed{} = 3{,}789$$

Answer: _____

12. Complete this addition:

$$5\_8 + 347 = 905$$

Answer: _____

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13. Find the missing hundreds digit:

$$2{,}\_45 + 1{,}287 = 3{,}832$$

Answer: _____

14. Look at this vertical addition problem. Fill in the missing numbers:

4	?	6
+ 2	3	8
7	1	4

Answer: _____

15. In this addition, two digits are missing:

$$6\_4 + 1\_8 = 832$$

Find both missing digits.

Answer: _____

16. Solve for the missing thousands digit:

$$\_{,}234 + 2{,}891 = 6{,}125$$

Answer: _____

5

2 → **3** **S°**

Detective Digits!

Why did the number detective love addition mysteries?

Because every missing digit was a clue to solve!

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Section 3: Problem Solving - Real World Applications
Apply your addition skills to solve these practical problems.

17. A school library has 1,245 fiction books and 876 non-fiction books. How many books does the library have altogether?

Answer: _____

18. Emma saved $2,367 in her bank account. Her grandmother gave her another $1,895 for her birthday. How much money does Emma have now?

Answer: _____

19. A sports stadium had 4,567 people at the morning session and 3,889 people at the afternoon session. What was the total attendance for the day?

Answer: _____

20. A farmer collected 678 eggs on Monday, 543 eggs on Tuesday, and 789 eggs on Wednesday. How many eggs were collected in total over the three days?

Answer: _____

21. Two towns are raising money for charity. Town A raised $5,678 and Town B raised $4,923. How much did they raise together?

Answer: _____

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22. A bookshop sold 1,234 books in January and 2,567 books in February. How many books were sold in these two months?

Answer: _____

23. Look at this table showing visitor numbers to three museums:

Museum	Visitors
Art Museum	2,456
Science Museum	3,789
History Museum	1,678

What is the total number of visitors to all three museums?

Answer: _____

Sum-thing Special!

Why was the maths book always worried?

Because it had too many problems to add up!

Excellent work! You're an addition champion!

Answer Key
Worksheet 7: Algorithms & Regrouping

1. Answer: **632**
Working:

$$345 + 287 = 632$$

2. Answer: **724**
Working:

$$526 + 198 = 724$$

3. Answer: **3,834**
Working:

$$1,456 + 2,378 = 3,834$$

4. Answer: **5,812**
Working:

$$3,847 + 1,965 = 5,812$$

5. Answer: **1,133**
Working:

$$678 + 455 = 1,133$$

6. Answer: **6,412**
Working:

$$2,567 + 3,845 = 6,412$$

7. Answer: **7,875**
Working:

$$4,999 + 2,876 = 7,875$$

8. Answer: **1,443**

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Working:

$$789 + 654 = 1{,}443$$

Section 2: Reasoning - Finding the Missing Digit

9. Answer: **6**
Working:

$$4{,}263 + 1{,}562 = 5{,}825$$

10. Answer: **8**
Working:

$$387 + 245 = 632$$

11. Answer: **2,333**
Working:

$$3{,}789 - 1{,}456 = 2{,}333$$

12. Answer: **5**
Working:

$$558 + 347 = 905$$

13. Answer: **5**
Working:

$$2{,}545 + 1{,}287 = 3{,}832$$

14. Answer: **7**
Working:

$$476 + 238 = 714$$

(missing digit in tens place is 7)

15. Answer: **First missing digit: 6, Second missing digit: 1**
Working:

$$664 + 168 = 832$$

16. Answer: **3**

10

Working:

$$3,234 + 2,891 = 6,125$$

Section 3: Problem Solving - Real World Applications

17. Answer: **2,121 books**
Working:

$$1,245 + 876 = 2,121$$

18. Answer: **$4,262**
Working:

$$2,367 + 1,895 = 4,262$$

19. Answer: **8,456 people**
Working:

$$4,567 + 3,889 = 8,456$$

20. Answer: **2,010 eggs**
Working:

$$678 + 543 + 789 = 2,010$$

21. Answer: **$10,601**
Working:

$$5,678 + 4,923 = 10,601$$

22. Answer: **3,801 books**
Working:

$$1,234 + 2,567 = 3,801$$

23. Answer: **7,923 visitors**
Working:

$$2,456 + 3,789 + 1,678 = 7,923$$

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Year 4 Mathematics

Addition Skills Workshop

Worksheet 8: Mental Strategies & Problem Solving

Name: _____   **Date:** _____

Section 1: Fluency - Mental Addition Strategies
Use smart strategies like compensation, splitting, and jumping to add mentally.

Strategy Reminder:

- **Compensation:** Add 99 by adding 100 and subtracting 1

- **Split Strategy:** Break numbers into hundreds, tens, and ones

- **Jump Strategy:** Jump along a number line in chunks

1. Use compensation to solve:

$$256 + 99 = ?$$

Strategy: Add 100, then subtract 1

Answer: _____

2. Use compensation to solve:

$$478 + 199 = ?$$

Strategy: Add 200, then subtract 1

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Answer: _____

3. Use the split strategy for:

$$345 + 232 = ?$$

Strategy:

$$(300 + 200) + (40 + 30) + (5 + 2)$$

Answer: _____

4. Look at this jump strategy on a number line:

$$350 + 245 = ?$$

Answer: _____

5. Add by making friendly numbers:

$$567 + 398 = ?$$

Hint: Change 398 to 400, then adjust

Answer: _____

6. Use compensation:

$$1{,}234 + 999 = ?$$

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Answer: _____

7. Split and add:

$$426 + 153 = ?$$

Show your working:

$$(400 + 100) + (20 + 50) + (6 + 3)$$

Answer: _____

8. Which strategy would be best for

$$678 + 299$$

? Explain why and solve it.

Answer: _____

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Mental Maths Master!

Why did the mental mathematician never use a calculator?
Because their brain was already turbo-charged!

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Section 2: Reasoning - Number Sentences & Equations

Create and solve number sentences for these practical situations.

9. Write a number sentence and solve: A shop sold 1,456 toys in December and 2,387 toys in January. How many toys were sold in total?

Number sentence: _____

Answer: _____

10. Write a number sentence: Sarah collected 567 shells. Her brother collected 345 shells. How many shells do they have altogether?

Number sentence: _____

Answer: _____

11. Look at this problem: A cinema had three sessions. The first session had 234 people, the second had 456 people, and the third had 321 people. Write a number sentence to find the total attendance.

Number sentence: _____

Answer: _____

12. Complete the number sentence:

$$1{,}234 + \boxed{} = 4{,}567$$

Answer: _____

15

13. A school has 1,245 students. If 876 more students enroll, how many students will the school have? Write the number sentence and solve.

Number sentence: _____

Answer: _____

14. True or False:
$$345 + 567 = 567 + 345$$

Explain why this is true or false.

Answer: _____

_____

15. Which calculation is easier to solve mentally?
A)
$$678 + 234$$

B)
$$678 + 199$$

Explain your choice.

Answer: _____

_____

16

Equation Expert!

Why did the equals sign always feel balanced?

Because it treated both sides fairly!

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Section 3: Problem Solving - Multi-Step Problems
Solve these challenging real-world problems using addition.

16. A bakery made 1,234 cupcakes on Monday, 1,567 cupcakes on Tuesday, and 1,891 cupcakes on Wednesday. How many cupcakes did they make in total across the three days?

Answer: _____

17. Three friends are saving for a trip. Emma has saved $1,456, Liam has saved $2,234, and Sophie has saved $1,789. How much have they saved together?

Answer: _____

18. A library received three donations of books:

- First donation: 567 books

- Second donation: 834 books

- Third donation: 1,245 books

How many books did the library receive in total?

Answer: _____

19. Look at this table showing attendance at a festival:

Day	Attendance
Friday	2,456
Saturday	4,789
Sunday	3,567

a) What was the total attendance for the weekend (Saturday and Sunday)?

Answer: _____

b) What was the total attendance for all three days?

Answer: _____

20. A school fundraiser collected money from four classes:

- Class 4A: $1,234

- Class 4B: $1,567

- Class 4C: $998

- Class 4D: $1,876

How much money did they raise altogether?

Answer: _____

21. A farmer harvested vegetables over four days:

- Monday: 1,456 kg

- Tuesday: 2,134 kg

- Wednesday: 1,789 kg

- Thursday: 2,567 kg

What was the total harvest?

Answer: _____

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22. Two bookshops compared their sales. Shop A sold books worth $12,456 and Shop B sold books worth $15,789. What was their combined total sales?

Answer: _____

23. Challenge Problem: A school is organizing a sports carnival. They need to transport:

- 1,234 students

- 567 parents

- 89 teachers

If each bus holds 50 people, first calculate the total number of people, then determine how many buses they need. (Hint: You'll need to divide by 50 after adding)

Total people: _____

Number of buses needed: _____

⭐

Problem Solving Star!

Why did the addition problem become famous?
Because it always knew how to sum things up perfectly!

Amazing work! You're a true addition superstar!

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Answer Key

Worksheet 8: Mental Strategies & Problem Solving

Section 1: Fluency - Mental Addition Strategies

1. Answer: **355**
Working:

$$256 + 100 = 356$$

, then

$$356 - 1 = 355$$

2. Answer: **677**
Working:

$$478 + 200 = 678$$

, then

$$678 - 1 = 677$$

3. Answer: **577**
Working:

$$300 + 200 = 500$$

,

$$40 + 30 = 70$$

,

$$5 + 2 = 7$$

, Total:

$$500 + 70 + 7 = 577$$

4. Answer: **595**
Working:

$$350 + 200 = 550$$

21

,

$$550 + 40 = 590$$

,

$$590 + 5 = 595$$

5. Answer: **965**

Working:

$$567 + 400 = 967$$

, then

$$967 - 2 = 965$$

6. Answer: **2,233**

Working:

$$1{,}234 + 1{,}000 = 2{,}234$$

, then

$$2{,}234 - 1 = 2{,}233$$

7. Answer: **579**

Working:

$$400 + 100 = 500$$

,

$$20 + 50 = 70$$

,

$$6 + 3 = 9$$

, Total:

$$500 + 70 + 9 = 579$$

8. Answer: **Compensation strategy; 977**

Explanation: It's easier to add 300 and subtract 1. Working:

$$678 + 300 = 978$$

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, then

$$978 - 1 = 977$$

Section 2: Reasoning - Number Sentences & Equations

9. Number sentence:

$$1,456 + 2,387 = ?$$

Answer: **3,843 toys**

10. Number sentence:

$$567 + 345 = ?$$

Answer: **912 shells**

11. Number sentence:

$$234 + 456 + 321 = ?$$

Answer: **1,011 people**

12. Answer: **3,333**

Working:

$$4,567 - 1,234 = 3,333$$

13. Number sentence:

$$1,245 + 876 = ?$$

Answer: **2,121 students**

14. Answer: **True**

Explanation: This demonstrates the commutative property of addition. The order of numbers doesn't change the sum.

15. Answer: **B)**

$$678 + 199$$

23

is easier

Explanation: You can use compensation by adding 200 and subtracting 1, which is a simple mental strategy.

Section 3: Problem Solving - Multi-Step Problems

16. Answer: **4,692 cupcakes**
Working:
$$1{,}234 + 1{,}567 + 1{,}891 = 4{,}692$$

17. Answer: **$5,479**
Working:
$$1{,}456 + 2{,}234 + 1{,}789 = 5{,}479$$

18. Answer: **2,646 books**
Working:
$$567 + 834 + 1{,}245 = 2{,}646$$

19a. Answer: **8,356 people**
Working:
$$4{,}789 + 3{,}567 = 8{,}356$$

19b. Answer: **10,812 people**
Working:
$$2{,}456 + 4{,}789 + 3{,}567 = 10{,}812$$

20. Answer: **$5,675**
Working:
$$1{,}234 + 1{,}567 + 998 + 1{,}876 = 5{,}675$$

21. Answer: **7,946 kg**
Working:
$$1{,}456 + 2{,}134 + 1{,}789 + 2{,}567 = 7{,}946$$

22. Answer: **$28,245**

24

Working:

$$12,456 + 15,789 = 28,245$$

23. Total people: **1,890 people**

Working:

$$1,234 + 567 + 89 = 1,890$$

Number of buses needed: **38 buses**

Working:

$$1,890 \div 50 = 37.8$$

, so they need 38 buses (must round up to have enough room)

Outstanding Achievement!

You've mastered addition strategies and problem solving!

Keep practicing and you'll continue to excel in mathematics!

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