

Addition and Subtraction Fluency Within 20: practice solutions, Grade 2 – download the PDF

Written solutions to the chapter problems. Check each step, then correct yourself.

1 Doubles



a. $6 + 6 = 12$

b. $9 + 9 = 18$

c. $7 + 7 = 14$

d. $10 + 10 = 20$

Each double is an even number.

2 Make ten



a. $8 + 2 = 10$

b. $7 + 3 = 10$

c. $6 + 4 = 10$

For $9 + 4$: take 1 from 4 to make $9 + 1 = 10$. Then $10 + 3 = 13$. So $9 + 4 = 13$.

3 Related facts



Start with the whole, 13. Subtract each part: $13 - 6 = 7$ and $13 - 7 = 6$.

4 Even or odd?



Even: 12, 18, and 20 (they end in 2, 8, and 0). Odd: 15, 7, and 13 (they end in 5, 7, and 3).

5 Missing addends



a. $11 - 6 = 5$, so $6 + 5 = 11$.

b. $15 - 8 = 7$, so $8 + 7 = 15$.

c. $17 - 9 = 8$, so $8 + 9 = 17$.

The number line shows the jump from 9 up to 17, which is 8.

6 Three numbers



$4 + 6 = 10$. Then $10 + 3 = 13$. So $4 + 3 + 6 = 13$.

7 Sticker book



Add the parts: $7 + 8$. Near double: $7 + 7 = 14$, so $7 + 8 = 15$.

Maya has **15 stickers**.

8 Near doubles



$6 + 6 = 12$, and 7 is 1 more than 6, so $6 + 7 = 12 + 1 = 13$.

9

Fact family

The whole is 14. The four facts are $5 + 9 = 14$, $9 + 5 = 14$, $14 - 5 = 9$, and $14 - 9 = 5$.

10

True or false?

- a. True. 8 plus 8 is a double and equals 16.
- b. False. $7 + 7 = 14$, so $7 + 8 = 15$.
- c. False. $7 + 6 = 13$, so $13 - 6 = 7$.
- d. True. You can add in any order, so both sides equal 14.

11

Muffin tray

Solve $18 - 9$. Since $9 + 9 = 18$, we get $18 - 9 = 9$.

There are **9 muffins** left.

12

Trading cards

Solve $9 + \square = 16$. Subtract: $16 - 9 = 7$. Check: $9 + 7 = 16$.

Leo needs **7 more cards**.

13

Three addends, two ways

- a. $5 + 5 = 10$, then $10 + 8 = 18$.
- b. $6 + 4 = 10$, then $10 + 7 = 17$.

14 Pairs



$8 + 8 = 16$, so $9 + 8 = 17$. The number 17 ends in 7, so it is **odd**. It has one counter left over when you make pairs.

15 Think addition



a. $9 + 7 = 16$, so $16 - 9 = 7$.

b. $8 + 6 = 14$, so $14 - 8 = 6$.

16 Pick a strategy



Take 1 from the 7 to give to the 9: $9 + 1 = 10$. What is left of 7 is 6. Then $10 + 6 = 16$.

So $7 + 9 = 16$.

17 Pairs that make 13



Check each number: $4 + 9 = 13$, $5 + 8 = 13$, $6 + 7 = 13$.

There are **3 pairs**: 4 and 9, 5 and 8, 6 and 7.

18 At the zoo



First add: $8 + 6 + 4$. Use $6 + 4 = 10$, then $10 + 8 = 18$.

Next subtract: $18 - 9 = 9$.

9 animals are still outside.

19 Missing addend with three numbers



First add the known numbers: $7 + 5 = 12$. Then $12 + \square = 20$, so $\square = 20 - 12 = 8$.

Check: $7 + 8 + 5 = 20$.

20 Number riddles



a. Think of a near double: $7 + 8 = 15$. The numbers are 7 and 8.

b. $9 + 10 = 19$. The numbers are 9 and 10.

21 Find the mistake



Check: $6 + 7 = 13$, not 14. So Sam is wrong.

The right fact is $6 + 8 = 14$, so $14 - 6 = 8$.

22 Sharing fairly



15 is odd. When you make pairs, one cookie is left over, so they cannot share 15 equally.

14 is even. $7 + 7 = 14$, so each friend gets 7 cookies.

23 Balance the equation



Find the right side first: $6 + 8 = 14$. Then $9 + \square = 14$, so $\square = 14 - 9 = 5$.

Check: $9 + 5 = 14$.

24 Bus ride



After the first stop: $9 + 7 = 16$. After the second stop: $16 - 5 = 11$.

There are **11 children** on the bus.



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