Fact Families

John and Suzanne noticed that the addition fact $9 + 6 = 15$ is related to the subtraction facts $15 - 6 = 9$ and $15 - 9 = 6$.

"These facts all use 6, 9, and 15. There are a lot of facts that use the same numbers," said John. The set of math facts you can make from the same numbers is called a **fact family**.

John decided to list the number sentences in the fact family for another set of numbers: 6, 7, 13. "The easiest for me is addition. I add the two smaller numbers to get the largest," he said. Then he wrote:

$$7 + 6 = 13 \qquad 6 + 7 = 13$$

"Once I know one addition sentence, the other is easy, since you can turn the numbers around and get the same answer."

"To get the subtraction facts in this fact family, I start with the largest number, which is 13. Then I think about 6 and 7. If I take one of the numbers away from 13, I get the other. This gives me two subtraction sentences." He wrote:

$$13 - 6 = 7 \qquad 13 - 7 = 6$$

"It helps me remember them when I think of these facts together."

✓ **Check-In: Questions 12-13**

12. A. Write the number sentences in the fact family for the numbers 4, 9, 13.

  B. Show or tell what strategy you can use to solve each number sentence.

13. A. Write the number sentences in the fact family for the numbers 7, 9, 16.

  B. Show or tell what strategy you can use to solve each number sentence.

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12. A.
$$4 + 9 = 13 \qquad\qquad 9 + 4 = 13$$
$$13 - 9 = 4 \qquad\qquad 13 - 4 = 9$$

  B. Possible answers: To solve $4 + 9$ and $9 + 4$, students might use tens by counting up 1 from 9 to 10, and then adding on 3 more to make 13. To solve $13 - 9$ and $13 - 4$, students might use thinking addition by asking "9 + what equals 13" and "4 + what equals 13?"

13. A.
$$7 + 9 = 16 \qquad\qquad 9 + 7 = 16$$
$$16 - 9 = 7 \qquad\qquad 16 - 7 = 9$$

  B. Possible answers: To solve $7 + 9$ and $9 + 7$, students might use tens by taking 1 from the 7 and giving it to the 9 to make 10. It is easier to think $10 + 6$ than $9 + 7$. To solve $16 - 9$ and $16 - 7$, students might use thinking addition by asking "9 + what equals 16" and "7 + what equals 16?"

Name _____ Date _____

Related Facts
Homework

Dear Family Member:

The set of math facts you can make from the same numbers is called a fact family. Here is the fact family for the numbers 2, 7, and 9:

$$2 + 7 = 9 \qquad 7 + 2 = 9$$
$$9 - 7 = 2 \qquad 9 - 2 = 7$$

Thinking of related facts together helps students remember them.

Thank you.

1. Complete the following sentences to make fact families. Make four different sentences in each group:

A. $7 + 4 = \boxed{}$ **B.** $3 + 6 = \boxed{}$ **C.** $\boxed{} + 8 = 14$

$4 + \boxed{} = 11$ $6 + \boxed{} = 9$ $8 + 6 = \boxed{}$

$\boxed{} - 4 = 7$ $\boxed{} - 6 = 3$ $14 - 6 = \boxed{}$

$11 - 7 = \boxed{}$ $\boxed{} - 3 = 6$ $\boxed{} - 8 = \boxed{}$

2. Write the four number sentences in the fact families for the following numbers:

A. 4, 5, 9
_____   _____
_____   _____

B. 2, 8, 10
_____   _____
_____   _____

C. 6, 7, 13
_____   _____
_____   _____

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Related Facts (SAB p. 51)
Questions 1–2

1. A. $7 + 4 = 11$ **B.** $3 + 6 = 9$
$\quad\;\; 4 + 7 = 11$ $\qquad 6 + 3 = 9$
$\quad\;\; 11 - 4 = 7$ $\qquad 9 - 6 = 3$
$\quad\;\; 11 - 7 = 4$ $\qquad 9 - 3 = 6$

  C. $6 + 8 = 14$
  $\quad\; 8 + 6 = 14$
  $\quad\; 14 - 6 = 8$
  $\quad\; 14 - 8 = 6$

2. A. $4 + 5 = 9$ $\qquad\quad 5 + 4 = 9$
$\qquad 9 - 4 = 5$ $\qquad\quad 9 - 5 = 4$

  B. $2 + 8 = 10$ $\qquad 8 + 2 = 10$
  $\quad\; 10 - 2 = 8$ $\qquad 10 - 8 = 2$

  C. $6 + 7 = 13$ $\qquad 7 + 6 = 13$
  $\quad\; 13 - 6 = 7$ $\qquad 13 - 7 = 6$