1 - 1　Properties of Multiplication (1)

1　Complete the following multiplication table.

Multipliers

		1	2	3	4	5	6	7	8	9
Facts of 1	1	1	2	3	4	5	6	7	8	9
Facts of 2	2	2	4		8		12		16	
Facts of 3	3	3	6	9			18			
Facts of 4	4	4	8			20				
Facts of 5	5	5	10							
Facts of 6	6	6								
Facts of 7	7	7								
Facts of 8	8	8								
Facts of 9	9	9								

(Multiplicands — column on the left)

Do you remember the multiplication facts? Fill the blank with the results of multiplication of multiplicands and multipliers.
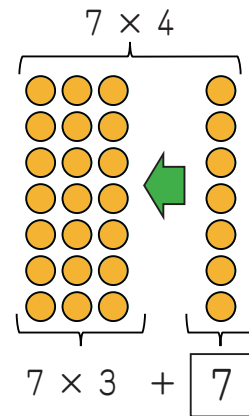
Example　Write the numbers in the ☐ .

1 The answer to 7×4 is ☐ 7 ☐ larger than 7×3.

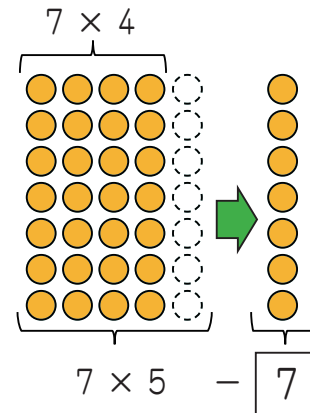|	1	2	3	4	5
7	7	14	21		35

7　7　7　7

7×4

7×3　+　☐ 7 ☐

When the multiplier increased by 1, the answer increases by the multiplicand.

2 The answer to 7×4 is ☐ 7 ☐ smaller than 7×5.

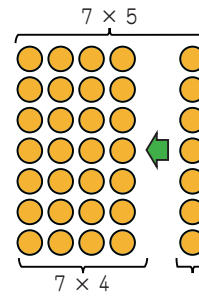|	1	2	3	4	5
7	7	14	21		35

7　7　7　7

7×4
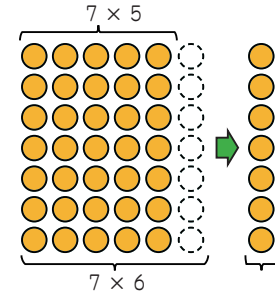
7×5　−　☐ 7 ☐

When the multiplier decreases by 1, the answer decreases by the multiplicand.
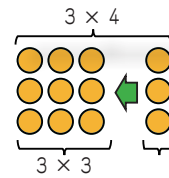
2

2 Write the numbers in the ☐.

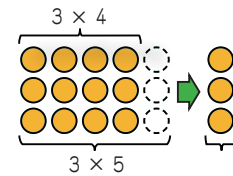**1** The answer to 7×5 is ☐ larger than 7×4.

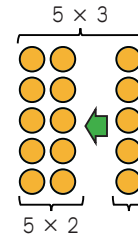**2** The answer to 7×5 is ☐ smaller than 7×6.

3 The answer to 3×4 is 3 larger than $3 \times$ ☐.

4 The answer to 3×4 is 3 smaller than $3 \times$ ☐.

5 The answer to 5×3 is ☐ larger than 5×2.

6 The answer to 4×8 is 4 smaller than $4 \times$ ☐.
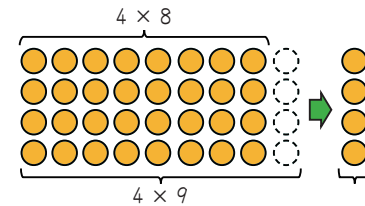
3 Write the numbers in the ☐.

1 $7 \times 5 = 7 \times 4 +$ ☐ .

2 $7 \times 5 = 7 \times 6 -$ ☐

3 $3 \times 4 = 3 \times$ ☐ $+ 3$

4 $3 \times 4 = 3 \times$ ☐ $- 3$

5 $5 \times 3 = 5 \times 2 +$ ☐

6 $4 \times 8 = 4 \times$ ☐ $- 4$

7 $8 \times 6 = 8 \times 7 -$ ☐

8 $6 \times 7 = 6 \times$ ☐ $- 6$

3

1 - 2 Properties of Multiplication (2)
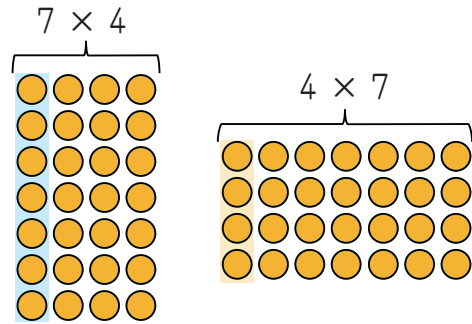
Example Look at the multiplication table and answer the following questions.

1 Find the multiplication math sentence that has the same answer as 7×4.

$$7 \times 4 = \boxed{4} \times \boxed{7} = \boxed{28}$$

7×4

4×7

2 Find the multiplication math sentence that has the same answer as 9×3.

$$9 \times 3 = \boxed{3} \times \boxed{9} = \boxed{27}$$

When the order of the multiplicand and the multiplier is switched, the answer remains the same.

Multipliers

	1	2	③	4	5	6	7	8	⑨
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
③	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
⑨	9	18	27	36	45	54	63	72	81

Multiplicands

Find the multiplication math sentences that have the same answers as the following sentences. Then find the answers.

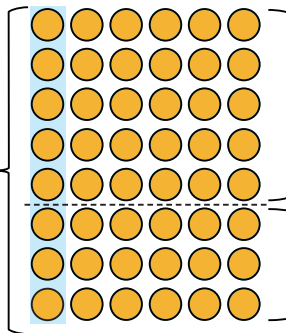**1** $7 \times 5 = \boxed{} \times \boxed{} = \boxed{}$
2 $9 \times 4 = \boxed{} \times \boxed{} = \boxed{}$

3 $2 \times 9 = \boxed{} \times \boxed{} = \boxed{}$
4 $4 \times 6 = \boxed{} \times \boxed{} = \boxed{}$

5 $6 \times 3 = \boxed{} \times \boxed{} = \boxed{}$
6 $5 \times 8 = \boxed{} \times \boxed{} = \boxed{}$

7 $1 \times 5 = \boxed{} \times \boxed{} = \boxed{}$
8 $3 \times 2 = \boxed{} \times \boxed{} = \boxed{}$

9 $8 \times 4 = \boxed{} \times \boxed{} = \boxed{}$
10 $9 \times 7 = \boxed{} \times \boxed{} = \boxed{}$

11 $2 \times 7 = \boxed{} \times \boxed{} = \boxed{}$
12 $6 \times 5 = \boxed{} \times \boxed{} = \boxed{}$

1 - 3 Properties of Multiplication (3)

Example Write the numbers in the ☐.

$$8 \times 6 \begin{cases} 5 \times 6 = \boxed{30} \\ \boxed{3} \times 6 = \boxed{18} \end{cases}$$

Altogether $\boxed{48}$

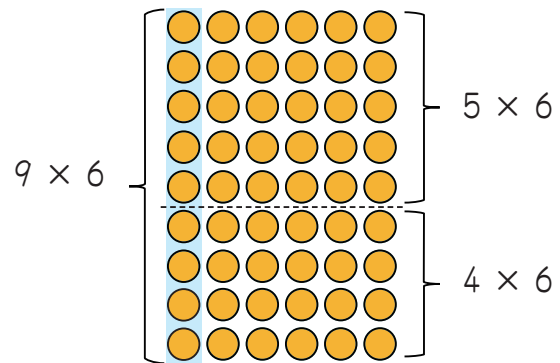$8 \times 6 \begin{cases} 5 \times 6 \\ 3 \times 6 \end{cases}$

In multiplication, even if the **multiplicand** is divided up and calculated, the answer is still the same.

In multiplication, even if the **multiplier** is divided up and calculated, the answer is also the same.

Write the numbers in the ☐.

1
$$9 \times 6 \begin{cases} 5 \times 6 = \boxed{} \\ \boxed{} \times 6 = \boxed{} \end{cases}$$

Altogether $\boxed{}$

$9 \times 6 \begin{cases} 5 \times 6 \\ 4 \times 6 \end{cases}$

2
$$6 \times 8 \begin{cases} 3 \times 8 = \boxed{} \\ \boxed{} \times 8 = \boxed{} \end{cases}$$

Altogether $\boxed{}$

3
$$8 \times 9 \begin{cases} 4 \times 9 = \boxed{} \\ \boxed{} \times 9 = \boxed{} \end{cases}$$

Altogether $\boxed{}$

4
$$7 \times 4 \begin{cases} \boxed{} \times 4 = \boxed{} \\ 2 \times 4 = \boxed{} \end{cases}$$

Altogether $\boxed{}$

5
$$9 \times 5 \begin{cases} \boxed{} \times 5 = \boxed{} \\ 3 \times 5 = \boxed{} \end{cases}$$

Altogether $\boxed{}$

5

1 - 4　Finding the Numbers

Example　Write the numbers in the ☐.

① $6 \times \boxed{4} = 24$

② $\boxed{5} \times 3 = \boxed{15}$

	1	2	3	④	5	
1						
2						
3						
4						
5						
6		24				
7						

You can use the multiplication table.

	1	2	3	4	5
1					
2					
3					
4					
⑤		15			
6					

Write the numbers in the ☐.

① $6 \times \boxed{} = 48$

② $7 \times \boxed{} = 21$

③ $5 \times \boxed{} = 10$

④ $9 \times \boxed{} = 45$

⑤ $4 \times \boxed{} = 16$

⑥ $2 \times \boxed{} = 16$

⑦ $3 \times \boxed{} = 21$

⑧ $\boxed{} \times 3 = 18$

⑨ $\boxed{} \times 2 = 10$

⑩ $\boxed{} \times 4 = 12$

⑪ $\boxed{} \times 8 = 32$

⑫ $\boxed{} \times 7 = 49$

⑬ $\boxed{} \times 5 = 40$

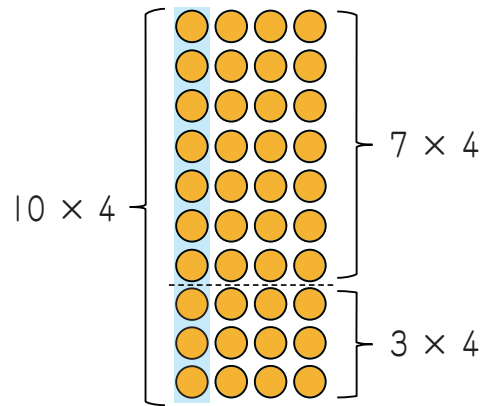⑭ $\boxed{} \times 6 = 54$

1 - 5 Various Ways for Calculation

Example 1 Calculate the following multiplication problems.

$10 \times 4 = \boxed{40}$

10 is divided into 7 and 7.

10×4
$\boxed{7} \times 4 = \boxed{28}$
$\boxed{3} \times 4 = \boxed{12}$

Altogether $\boxed{40}$

10×4

7×4

3×4

1 Calculate the following multiplication problems.

① $10 \times 5 = \boxed{}$ ② $10 \times 3 = \boxed{}$ ③ $10 \times 8 = \boxed{}$

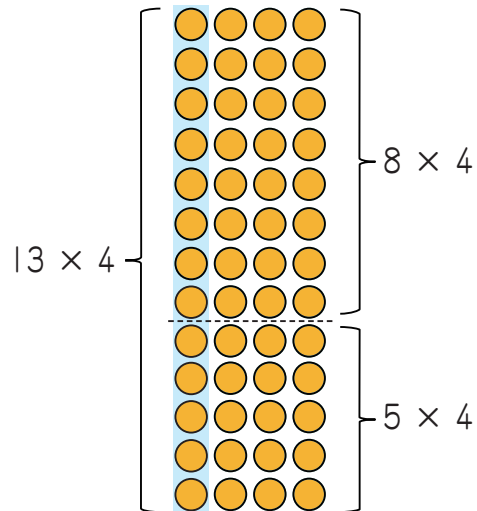**Example 2** Calculate the following multiplication problems.

$13 \times 4 = \boxed{52}$

13 is divided into 8 and 5.

13×4
$\boxed{8} \times 4 = \boxed{32}$
$\boxed{5} \times 4 = \boxed{20}$

Altogether $\boxed{52}$

13×4

8×4

5×4

2 Calculate the following multiplication problems.

① $14 \times 4 = \boxed{}$ ② $11 \times 6 = \boxed{}$ ③ $12 \times 5 = \boxed{}$

④ $17 \times 3 = \boxed{}$ ⑤ $16 \times 2 = \boxed{}$ ⑥ $15 \times 3 = \boxed{}$

7

1 - 6 Properties of Multiplication

Multiplication with 0

Example Calculate the following multiplication problems.

① $7 \times 0 = \boxed{0}$

② $0 \times 7 = \boxed{0}$

> When a number is multiplied by 0, the answer is always 0.
>
> Also, even when 0 is multiplied by a number, the answer is always 0.
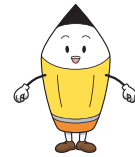
1 Calculate the following multiplication problems.

① $8 \times 0 = \boxed{}$

② $3 \times 0 = \boxed{}$

③ $0 \times 16 = \boxed{}$

④ $29 \times 0 = \boxed{}$

2 I played a scoring game. The score is the point written where the coin is stopped by flipping the coin with my finger. As a result of doing 1 times, the results were as follows. Calculate the total of my scores.

Where the coin stopped (points)	Number of coin stopped (times)	Score (points)
10	1	
3	4	
0	5	
Total Score		

10 points

0 points   3 points

3 points

0 points

Start

Math sentence

Answer $\boxed{}$ points

1 - 7 Properties of Multiplication

Multiplication by 10 and 100

Example 1 Calculate the following multiplication problems.

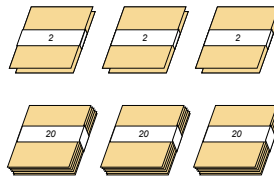$20 \times 3 = \boxed{60}$

$$2 \times 3 = 6$$

↓ 10 times   ↓ 10 times

$$20 \times 3 = 60$$

> When the multiplicand is multiplied by 10, the answer is also multiplied by 10.

1 Calculate the following multiplication problems.

① $20 \times 4 = \boxed{}$

② $30 \times 3 = \boxed{}$

③ $40 \times 6 = \boxed{}$

④ $50 \times 7 = \boxed{}$

⑤ $90 \times 8 = \boxed{}$

⑥ $80 \times 5 = \boxed{}$

Example 2 Calculate the following multiplication problems.
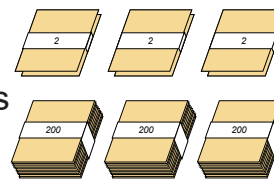
$200 \times 3 = \boxed{600}$

$$2 \times 3 = 6$$

↓ 100 times   ↓ 100 times

$$200 \times 3 = 600$$

> When the multiplicand is multiplied by 100, the answer is also multiplied by 100.

2 Calculate the following multiplication problems.

① $300 \times 3 = \boxed{}$

② $500 \times 5 = \boxed{}$

③ $400 \times 6 = \boxed{}$

④ $800 \times 9 = \boxed{}$

⑤ $700 \times 7 = \boxed{}$

⑥ $600 \times 5 = \boxed{}$

1 - 8

Review

1 Write the numbers in the ☐ .

1 The answer to 8×6 is ☐ larger than 8×5.

2 The answer to 9×4 is ☐ larger than 9×3.

3 The answer to 6×3 is ☐ larger than 6×2.

4 The answer to 7×5 is ☐ smaller than 7×6.

5 The answer to 3×8 is ☐ smaller than 3×9.

6 The answer to 4×6 is ☐ smaller than 4×7.

2 Write the numbers in the ☐ .

1 $5 \times 6 = 5 \times 5 + $ ☐

2 $8 \times 4 = 8 \times 3 + $ ☐

3 $7 \times 4 = 7 \times 3 + $ ☐

4 $3 \times 5 = 3 \times 6 - $ ☐

5 $6 \times 8 = 6 \times 9 - $ ☐

6 $2 \times 6 = 2 \times 7 - $ ☐

3 Write the numbers in the ☐ .

1
$$7 \times 5 \begin{cases} 5 \times 5 = ☐ \\ ☐ \times 5 = ☐ \end{cases}$$
Altogether ☐

2
$$6 \times 6 \begin{cases} 5 \times 6 = ☐ \\ ☐ \times 6 = ☐ \end{cases}$$
Altogether ☐

10

3

9×6

$4 \times 6 = \boxed{}$

$\boxed{} \times 6 = \boxed{}$

Altogether $\boxed{}$

4

10×7

$6 \times 7 = \boxed{}$

$\boxed{} \times 7 = \boxed{}$

Altogether $\boxed{}$

5

12×3

$7 \times 3 = \boxed{}$

$\boxed{} \times 3 = \boxed{}$

Altogether $\boxed{}$

6

15×4

$9 \times 4 = \boxed{}$

$\boxed{} \times 4 = \boxed{}$

Altogether $\boxed{}$

4 Write the numbers in the $\boxed{}$.

1 $6 \times \boxed{} = 48$

2 $3 \times \boxed{} = 21$

3 $4 \times \boxed{} = 16$

4 $\boxed{} \times 5 = 40$

5 $\boxed{} \times 8 = 32$

6 $\boxed{} \times 2 = 10$

5 Calculate the following multiplication problems.

1 $20 \times 8 = \boxed{}$

2 $50 \times 7 = \boxed{}$

3 $90 \times 6 = \boxed{}$

4 $400 \times 8 = \boxed{}$

5 $300 \times 7 = \boxed{}$

6 $600 \times 3 = \boxed{}$

7 $0 \times 5 = \boxed{}$

8 $8 \times 0 = \boxed{}$