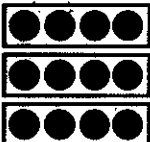
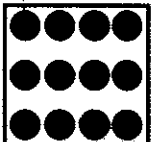


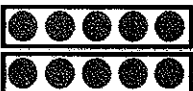
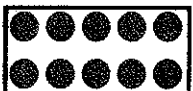
Understanding Multiplication

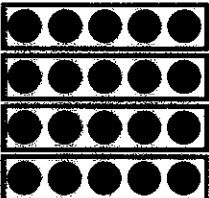
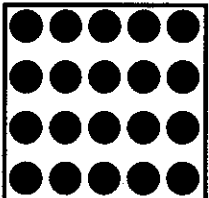
Name _____ Class _____ Date _____

GET STARTED

1  =  3 groups of 4 circles = $4 + 4 + 4 =$ _____

2 $3 \times 4 =$ _____ + _____ + _____ = _____

3  =  $2 \times 5 =$ _____ + _____ = _____

4  = 

$4 \times 5 =$ _____ + _____ + _____ + _____ = _____

Multiplying is adding equal groups to find a total.

What is the total number of stars?



_____ groups of _____ stars

$6 + 6 + 6 =$ _____



number of groups $\times$ number in each group = product



_____ $\times$ _____ = _____

There are _____ stars.

**BUILD
THE
CONCEPT**

TRY IT TOGETHER

Find each product.

5 $3 \times 5 = \underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$

6 $4 \times 6 = \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$

7 $5 \times 7 = \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$

WORK ON YOUR OWN

Multiply Using Repeated Addition

Using Symbols

1. Multiply: 4×3

$$3 + 3 + 3 + 3 = 12$$

2. So, $4 \times 3 = 12$

Using Words

Add the second factor the number of times given by the first factor.

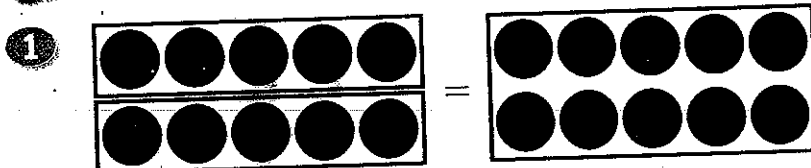
Write the product.

HOW
TO

Multiplying Using Doubles

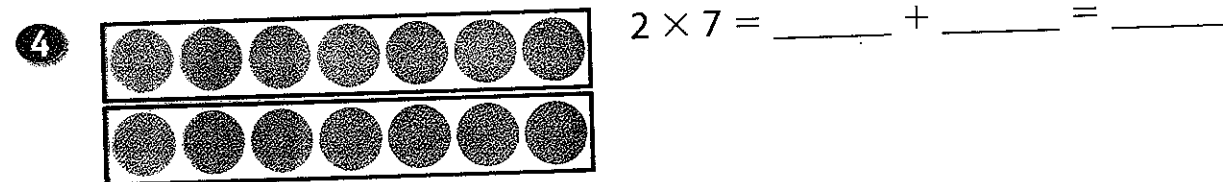
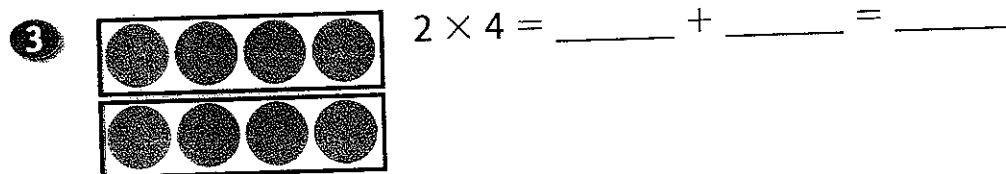
Name _____ Class _____ Date _____

GET STARTED

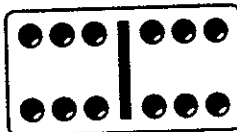


2 groups of 5 circles = $5 + 5 =$ _____

2 $2 \times 5 =$ _____ + _____ = _____



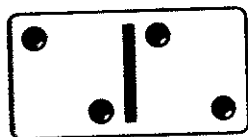
Dominoes can show doubles.



$6 + 6 =$ _____
 $2 \times 6 =$ _____

**BUILD
THE
CONCEPT**

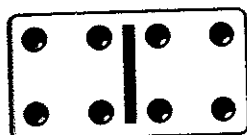
Other doubles:



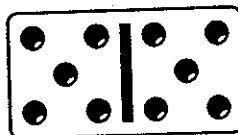
$2 \times 2 =$ _____



$2 \times 3 =$ _____



$2 \times 4 =$ _____



$2 \times 5 =$ _____

TRY IT TOGETHER

Find each double.

5 $2 \times 10 = \underline{\quad} + \underline{\quad} = \underline{\quad}$

6 $6 \times 2 = \underline{\quad} + \underline{\quad} = \underline{\quad}$

7 $2 \times 8 = \underline{\quad} + \underline{\quad} = \underline{\quad}$

8 $12 \times 2 = \underline{\quad} + \underline{\quad} = \underline{\quad}$

WORK ON YOUR OWN

Multiply Using Doubles

Using Symbols

1. Multiply: 7×2

2. $7 + 7 = 14$

3. $7 \times 2 = 14$

Using Words

Identify that one factor is 2.

Add the other factor to itself.

Write that sum for the product.

**HOW
TO**

Skip Counting

Name _____ Class _____ Date _____

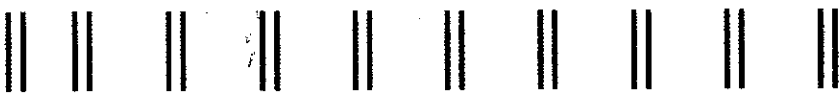
GET STARTED

1



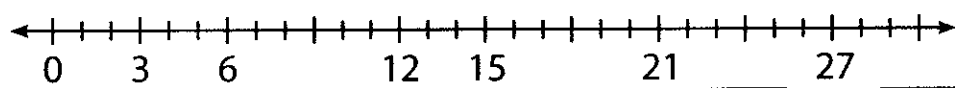
1, __, 3, __, 5, __, 7, __, 9, __, 11, __, 13, __, 15, __, 17, __, 19, __

2



2, __, __, __, __, __, __, __, __, __

3



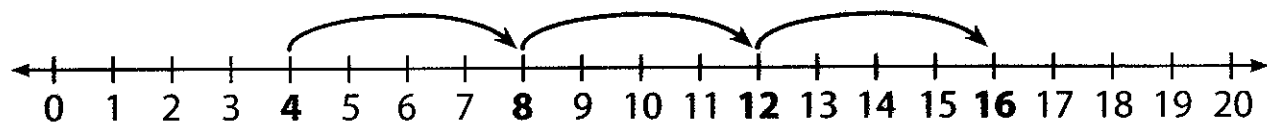
4

5, 10, __, 20, 25, __, 35, 40, __, 50

BUILD THE CONCEPT

A number line can be used to skip count.

The number line shows skip counting by 4.



What number will be counted next?

4, 8, 12, 16, __

TRY IT TOGETHER

Skip count to find each missing number.

5 4, 8, 12, _____, 20, _____, 28, 32, _____, _____

6 7, 14, _____, 28, 35, _____, 49, _____, 63, _____

7 10, 20, 30, _____, 50, _____, 70, _____, 90, _____

WORK ON YOUR OWN

Skip Count

Using Symbols

1. Skip count by 5 to 30.

5

+5 +5 +5 +5 +5
2. 5, 10, 15, 20, 25, 30

Using Words

Start counting with a given number.

Count by adding that number again and again.



Problem-Solving: Finding Patterns

Name _____ Class _____ Date _____

GET STARTED

① 3, 6, 9, _____, 15, _____, _____, 24

② There are 3 books on the top shelf. There are 6 books on the second shelf. There are 9 books on the third shelf. If this pattern continues, how many books are on the sixth shelf?

a. Find: _____

b. How? _____

c. Solve. The rule is _____

There are _____ books on the sixth shelf.

d. Is the answer reasonable? Explain. _____

③ Mary planted 4 flowers in the first flower box, 8 flowers in the second box, and 12 flowers in the third box. If this pattern continues, how many flowers will Mary plant in the fifth flower box?

a. Find: _____

b. How? _____

c. Solve. The rule is _____

Mary will plant _____ flowers in the fifth box.

d. Is the answer reasonable? Explain. _____

TRY IT TOGETHER

Solve the problem by finding a pattern.

- ④ There are 6 seats in the first row and 12 seats in the second row. There are 6 more seats in each row. How many seats are in the fifth row?

a. Find: _____

b. How? _____

c. Solve. The rule is _____

There are _____ seats in the fifth row.

d. Is the answer reasonable? Explain. _____

WORK ON YOUR OWN

HOW TO

Solve a Problem by Finding a Pattern

The first 4 lockers in a row are numbered 5, 10, 15, and 20. If this pattern continues, what will be the number of the eighth locker in the row?

- Find:** the number of the eighth locker
- How?** Find a pattern.
- Solve.** Look at the numbers in the pattern: 5, 10, 15, 20. Describe the pattern rule. Start at 5 and skip count by 5. Use the rule to continue the pattern.

1st	2nd	3rd	4th	5th	6th	7th	8th
5	10	15	20	25	30	35	40

The eighth locker in the row will be number 40.

4. **Is the answer reasonable? Explain.**

Yes, $5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 = 40$. The eighth number in the pattern is 40.

Multiplication Facts: 0 and 1

Name _____ Class _____ Date _____

GET STARTED



1 group of 5 = _____



0 groups of 5 = _____

5 $1 \times 5 =$ _____
 $\uparrow$
 one

7 $0 \times 5 =$ _____
 $\uparrow$
 zero

9 $\begin{array}{r} 3 \\ \times 0 \end{array} \leftarrow \text{zero}$



5 groups of 1 = _____



5 groups of 0 = _____

6 $\begin{array}{r} 1 \leftarrow \text{one} \\ \times 5 \end{array}$

8 $\begin{array}{r} 0 \leftarrow \text{zero} \\ \times 5 \end{array}$

10 $\begin{array}{r} 2 \times 1 = \text{_____} \\ \uparrow \\ \text{one} \end{array}$

Multiplication Property of Zero:

The product of 0 and any factor is 0.

-  What is the total number of stars?
-  3 groups of 0 stars
 $0 + 0 + 0 = 0$
 $3 \times 0 =$ _____
- 

Multiplication Property of One:

The product of 1 and any factor is that factor.

-  What is the total number of stars?
-  3 groups of 1 star
 $1 + 1 + 1 = 3$
 $3 \times 1 =$ _____
- 

BUILD THE CONCEPT

TRY IT TOGETHER

Find each product.

11
$$\begin{array}{r} 4 \\ \times 0 \\ \hline \end{array}$$

12 $8 \times 0 = \underline{\hspace{2cm}}$

13 $9 \times 1 = \underline{\hspace{2cm}}$

14
$$\begin{array}{r} 6 \\ \times 1 \\ \hline \end{array}$$

WORK ON YOUR OWN

HOW
TO

Multiply by 0

Using Symbols

1. Multiply: 5×0

2. $5 \times 0 = 0$

Using Words

Identify that one factor is 0.

Write 0 for the product. This is called the **Multiplication Property of Zero**.

Multiply by 1

Using Symbols

1. Multiply: 1×5

2. $1 \times 5 = 5$

Using Words

Identify that one factor is 1.

Write the other factor for the product. This is called the **Multiplication Property of One**.

Multiplication Facts: 5 and 10

Name _____ Class _____ Date _____

GET STARTED

① 0, 5, 10, 15, 20, 25, 30, _____, _____, _____

② 0, 10, 20, 30, 40, 50, 60, _____, _____, _____

③ $0 \times 5 =$ _____

$1 \times 5 =$ _____

$2 \times 5 =$ _____

$3 \times 5 =$ _____

$4 \times 5 =$ _____

$5 \times 5 =$ _____

$6 \times 5 =$ _____

$7 \times 5 =$ _____

$8 \times 5 =$ _____

$9 \times 5 =$ _____

④ $0 \times 10 =$ _____

$1 \times 10 =$ _____

$2 \times 10 =$ _____

$3 \times 10 =$ _____

$4 \times 10 =$ _____

$5 \times 10 =$ _____

$6 \times 10 =$ _____

$7 \times 10 =$ _____

$8 \times 10 =$ _____

$9 \times 10 =$ _____

This chart shows the multiplication facts for 5 and 10.

$\times$	0	1	2	3	4	5	6	7	8	9
5	0	5	10	15	20	25	30	35	40	45
10	0	10	20	30	40	50	60	70	80	90

All the products of 5 have a 0 or a _____ in the ones place.

All the products of 10 have a _____ in the ones place.

**BUILD
THE
CONCEPT**

TRY IT TOGETHER

Find each product.

5 $4 \times 5 = \underline{\hspace{2cm}}$

6 $8 \times 10 = \underline{\hspace{2cm}}$

7
$$\begin{array}{r} 10 \\ \times 2 \\ \hline \end{array}$$

8
$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

WORK ON YOUR OWN

Multiply by 5

Using Symbols

1. Multiply: 6×5

2. $\underbrace{5, 10, 15, 20, 25, 30}_{6 \text{ times}}$

3. $6 \times 5 = 30$

Using Words

Identify that one factor is 5.

Count by 5 the number of times given by the other factor.

Write the product. The ones digit will always be 5 or 0.

Multiply by 10

Using Symbols

1. Multiply: 6×10

2. $\underbrace{10, 20, 30, 40, 50, 60}_{6 \text{ times}}$

3. $6 \times 10 = 60$

Using Words

Identify that one factor is 10.

Count by 10 the number of times given by the other factor.

Write the product. The ones digit will always be 0.



Multiplication Facts: 2 and 3

Name _____ Class _____ Date _____

GET STARTED

① 0, 2, 4, 6, 8, 10, 12, _____, _____, _____

② 0, 3, 6, 9, 12, 15, 18, _____, _____, _____

③ $0 \times 2 =$ _____

$1 \times 2 =$ _____

$2 \times 2 =$ _____

$3 \times 2 =$ _____

$4 \times 2 =$ _____

$5 \times 2 =$ _____

$6 \times 2 =$ _____

$7 \times 2 =$ _____

$8 \times 2 =$ _____

$9 \times 2 =$ _____

④ $0 \times 3 =$ _____

$1 \times 3 =$ _____

$2 \times 3 =$ _____

$3 \times 3 =$ _____

$4 \times 3 =$ _____

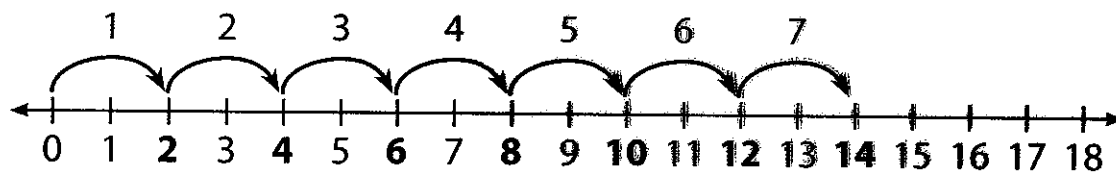
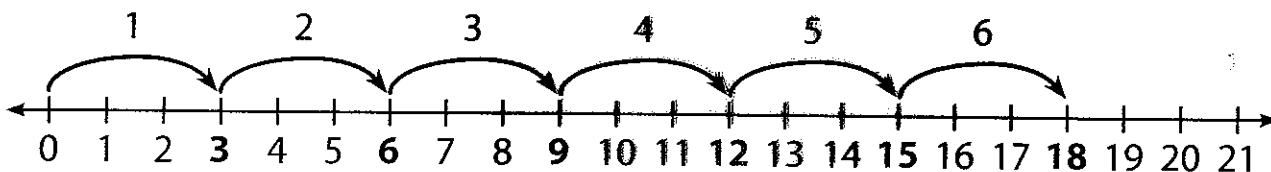
$5 \times 3 =$ _____

$6 \times 3 =$ _____

$7 \times 3 =$ _____

$8 \times 3 =$ _____

$9 \times 3 =$ _____

Use the number line to multiply: $7 \times 2 =$ _____Use the number line to multiply: $6 \times 3 =$ _____**BUILD
THE
CONCEPT**

TRY IT TOGETHER

Find each product.

5 $2 \times 3 = \underline{\quad}$

6 $6 \times 2 = \underline{\quad}$

7
$$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$$

8
$$\begin{array}{r} 3 \\ \times 4 \\ \hline \end{array}$$

WORK ON YOUR OWN



Multiply by 2

Using Symbols

1. Multiply: 8×2

2. $\underbrace{2, 4, 6, 8, 10, 12, 14, 16}_{8 \text{ times}}$

3. $8 \times 2 = 16$

Using Words

Identify that one factor is 2.

Count by 2 the number of times given by the other factor.

Write the product.

Multiply by 3

Using Symbols

1. Multiply: 3×5

2. $\underbrace{3, 6, 9, 12, 15}_{5 \text{ times}}$

3. $3 \times 5 = 15$

Using Words

Identify that one factor is 3.

Count by 3 the number of times given by the other factor.

Write the product.

Multiplication Facts: 4 and 6

Name _____ Class _____ Date _____

GET STARTED

① 0, 4, 8, 12, 16, 20, 24, _____, _____, _____

② 0, 6, 12, 18, 24, 30, 36, _____, _____, _____

③ $0 \times 4 =$ _____

$1 \times 4 =$ _____

$2 \times 4 =$ _____

$3 \times 4 =$ _____

$4 \times 4 =$ _____

$5 \times 4 =$ _____

$6 \times 4 =$ _____

$7 \times 4 =$ _____

$8 \times 4 =$ _____

$9 \times 4 =$ _____

④ $0 \times 6 =$ _____

$1 \times 6 =$ _____

$2 \times 6 =$ _____

$3 \times 6 =$ _____

$4 \times 6 =$ _____

$5 \times 6 =$ _____

$6 \times 6 =$ _____

$7 \times 6 =$ _____

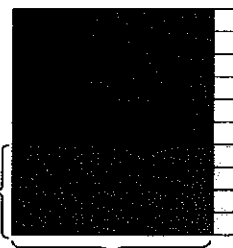
$8 \times 6 =$ _____

$9 \times 6 =$ _____

Grid paper can show the basic multiplication facts for 4 and 6.

This grid
shows 4×9 .

4 rows
shaded yellow



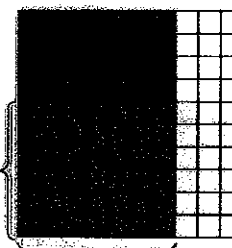
9 columns shaded blue

There are _____ green grid squares.

$4 \times 9 =$ _____

This grid
shows 6×7 .

6 rows
shaded yellow



7 columns shaded blue

There are _____ green grid squares.

$6 \times 7 =$ _____

**BUILD
THE
CONCEPT**

TRY IT TOGETHER

Find each product.

5 $4 \times 6 = \underline{\hspace{2cm}}$

6 $5 \times 4 = \underline{\hspace{2cm}}$

7
$$\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$$

8
$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

WORK ON YOUR OWN



Multiply by 4

Using Symbols

1. Multiply: 7×4

2. $\underbrace{4, 8, 12, 16, 20, 24, 28}_{7 \text{ times}}$

3. $7 \times 4 = 28$

Using Words

Identify that one factor is 4.

Count by 4 the number of times given by the other factor.

Write the product.

Multiply by 6

Using Symbols

1. Multiply: 5×6

2. $\underbrace{6, 12, 18, 24, 30}_{5 \text{ times}}$

3. $5 \times 6 = 30$

Using Words

Identify that one factor is 6.

Count by 6 the number of times given by the other factor.

Write the product.

Multiplication Facts: 7, 8, and 9

Name _____ Class _____ Date _____

GET STARTED

① 0, 7, 14, 21, 28, 35, 42, _____, _____, _____

② 0, 8, 16, 24, 32, 40, 48, _____, _____, _____

③ 0, 9, 18, 27, 36, 45, 54, _____, _____, _____

④ $0 \times 7 =$ _____

$1 \times 7 =$ _____

$2 \times 7 =$ _____

$3 \times 7 =$ _____

$4 \times 7 =$ _____

$5 \times 7 =$ _____

$6 \times 7 =$ _____

$7 \times 7 =$ _____

$8 \times 7 =$ _____

$9 \times 7 =$ _____

⑤ $0 \times 8 =$ _____

$1 \times 8 =$ _____

$2 \times 8 =$ _____

$3 \times 8 =$ _____

$4 \times 8 =$ _____

$5 \times 8 =$ _____

$6 \times 8 =$ _____

$7 \times 8 =$ _____

$8 \times 8 =$ _____

$9 \times 8 =$ _____

⑥ $0 \times 9 =$ _____

$1 \times 9 =$ _____

$2 \times 9 =$ _____

$3 \times 9 =$ _____

$4 \times 9 =$ _____

$5 \times 9 =$ _____

$6 \times 9 =$ _____

$7 \times 9 =$ _____

$8 \times 9 =$ _____

$9 \times 9 =$ _____

Arrays can show multiplication facts.

$3 \times 7 =$ _____

3 rows

7 in each row



$4 \times 8 =$ _____

_____ rows

_____ in each row



$2 \times 9 =$ _____

_____ rows

_____ in each row



**BUILD
THE
CONCEPT**

TRY IT TOGETHER

Find each product.

7 $6 \times 7 = \underline{\quad}$

8 $\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$

9 $\begin{array}{r} 9 \\ \times 7 \\ \hline \end{array}$

WORK ON YOUR OWN



Multiply by 7

Using Symbols

1. Multiply: 7×4

2. $\underbrace{7, 14, 21, 28}_{4 \text{ times}}$

3. $7 \times 4 = 28$

Using Words

Identify that one factor is 7.

Count by 7 the number of times given by the other factor.

Write the product.

Multiply by 8

Using Symbols

1. Multiply: 3×8

2. $\underbrace{8, 16, 24}_{3 \text{ times}}$

3. $3 \times 8 = 24$

Using Words

Identify that one factor is 8.

Count by 8 the number of times given by the other factor.

Write the product.

Multiply by 9

Using Symbols

1. Multiply: 9×5

2. $\underbrace{9, 18, 27, 36, 45}_{5 \text{ times}}$

3. $9 \times 5 = 45$

Using Words

Identify that one factor is 9.

Count by 9 the number of times given by the other factor.

Write the product.

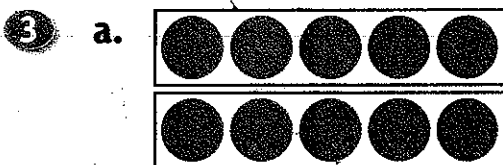
Properties of Multiplication

Name _____ Class _____ Date _____

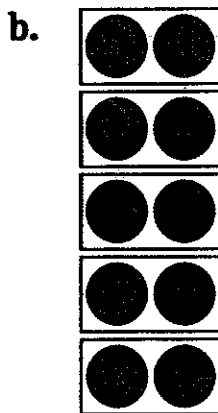
GET STARTED

1 $2 \times 4 =$ _____

2 $3 \times 6 =$ _____



_____ $\times$ _____ = _____

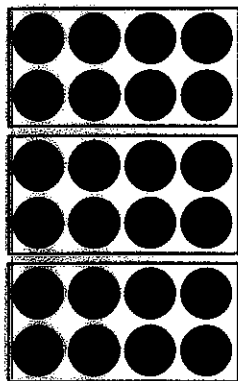


_____ $\times$ _____ = _____

4 a. $3 \times (2 \times 5) = 3 \times$ _____ = _____

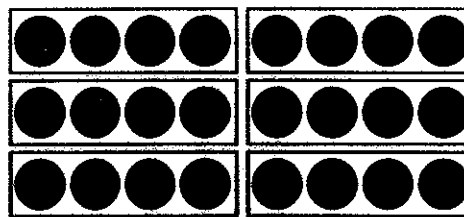
b. $(3 \times 2) \times 5 =$ _____ $\times 5 =$ _____

BUILD THE CONCEPT



3 groups of (2×4)

_____ $\times$ (_____ $\times$ _____) = _____
 _____ $\times$ _____ = _____



(3×2) groups of 4

(_____ $\times$ _____) $\times$ _____ = _____
 _____ $\times$ _____ = _____

TRY IT TOGETHER

Find each product. Use the Commutative Property of Multiplication to write another multiplication fact.

5 $7 \times 5 = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

6 $9 \times 6 = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

Find each product. Use the Associative Property of Multiplication to write another multiplication fact.

7 $2 \times (2 \times 4) = 2 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$
 $(\underline{\hspace{2cm}} \times \underline{\hspace{2cm}}) \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

8 $(1 \times 8) \times 3 = \underline{\hspace{2cm}} \times 3 = \underline{\hspace{2cm}}$
 $\underline{\hspace{2cm}} \times (\underline{\hspace{2cm}} \times \underline{\hspace{2cm}}) = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

WORK ON YOUR OWN

Use the Commutative and Associative Properties of Multiplication

Using Symbols

$4 \times 5 = 5 \times 4$

$4 \times 5 = 20$

$5 \times 4 = 20$

$(2 \times 3) \times 1 = 2 \times (3 \times 1)$

$(2 \times 3) \times 1 = 6 \times 1 = 6$

$2 \times (3 \times 1) = 2 \times 3 = 6$

Using Words

Commutative Property of Multiplication:

Changing the order of the factors does not affect the product.

Associative Property of Multiplication:

Grouping the factors in any order does not affect the product.

HOW TO

Multiplying with Multiples of 10

Name _____ Class _____ Date _____

GET STARTED

1 $4 \times 10 =$ _____

2 10, _____, 30, 40, _____, _____, 70, _____, 90, _____

3
$$\begin{array}{r} 2 \\ \times 30 \\ \hline \end{array}$$
 ← multiple of 10 with 1 zero
 $3 \times 2 \rightarrow$ _____ ← 1 zero

4
$$\begin{array}{r} 4 \\ \times 60 \\ \hline \end{array}$$

$6 \times 4 \rightarrow$ _____

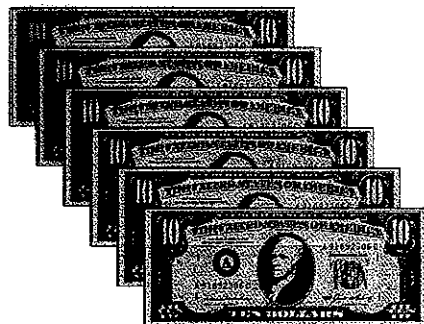
5
$$\begin{array}{r} 500 \\ \times 5 \\ \hline \end{array}$$
 ← multiple of 10 with 2 zeros
 $5 \times 5 \rightarrow$ _____ ← 2 zeros

6
$$\begin{array}{r} 7 \\ \times 300 \\ \hline \end{array}$$

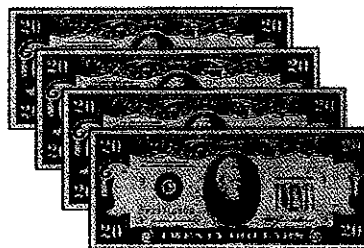
 $7 \times 3 \rightarrow$ _____

Use money to show multiplying with multiples of 10.

$6 \times 10 =$ _____



$4 \times 20 =$ _____



**BUILD
THE
CONCEPT**

TRY IT TOGETHER

Find each product.

$$\begin{array}{r} 7 \quad 4 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \quad 2 \\ \times 90 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \quad 6 \\ \times 500 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \quad 200 \\ \times 3 \\ \hline \end{array}$$

WORK ON YOUR OWN

Multiply with Multiples of 10

HOW TO

Using Symbols

1. 6×400

2. 400 has 2 zeros.

$$\begin{array}{r} 3. \quad 6 \\ \times 400 \\ \hline 00 \end{array}$$

4. $4 \times 6 = 24$

$$\begin{array}{r} 5. \quad 6 \\ \times 400 \\ \hline 2,400 \end{array}$$

Using Words

Identify that one factor is a multiple of 10.

Count the number of zeros in the multiple of 10.

Write that number of zeros at the right of the answer.

Multiply the nonzero numbers.

Write that product to the left of the zeros in the answer.

Multiplying by a 1-Digit Number with No Regrouping

Name _____ Class _____ Date _____

GET STARTED

1 $2 \times 4 = \underline{\hspace{2cm}}$

2 $2 \times 3 = \underline{\hspace{2cm}}$

3 34 tens place _____ ones place _____

4
$$\begin{array}{r} 34 \\ \times 2 \\ \hline \end{array}$$

(tens place) $2 \times 3 \rightarrow$ _____ $\leftarrow 2 \times 4$ (ones place)

5
$$\begin{array}{r} 93 \\ \times 3 \\ \hline \end{array}$$

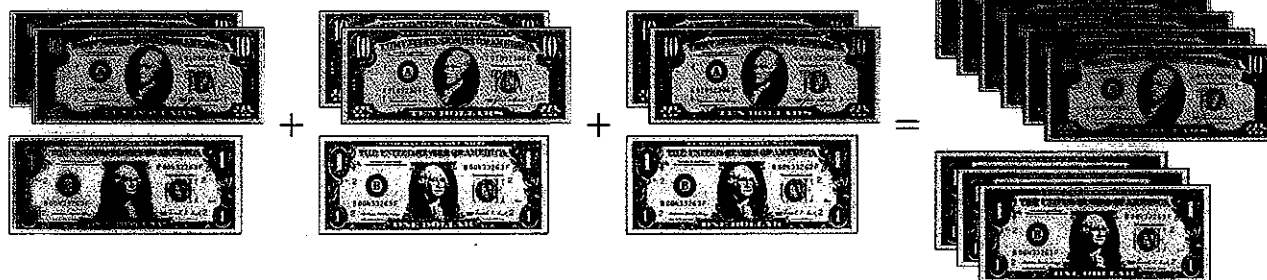
$3 \times 9 \rightarrow$ _____ $\leftarrow 3 \times 3$

6
$$\begin{array}{r} 81 \\ \times 5 \\ \hline \end{array}$$

$5 \times 8 \rightarrow$ _____ $\leftarrow 5 \times 1$

The money shows how to multiply 3 and 21 using repeated addition.

BUILD THE CONCEPT



$\$21 + \$21 + \$21 = \$\underline{\hspace{2cm}}$

$3 \times 21 = \underline{\hspace{2cm}}$

TRY IT TOGETHER

Find each product.

$$\begin{array}{r} 54 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 31 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 23 \\ \times 2 \\ \hline \end{array}$$

WORK ON YOUR OWN

Multiply by a 1-Digit Number with No Regrouping

HOW
TO

Using Symbols

1. 72×3

$$\begin{array}{r} 72 \\ \times 3 \\ \hline \end{array}$$

Using Words

Write the numbers one under the other, with the number that has more digits on top. Line up the ones digits.

2. 72
 $\times 3$

6

Multiply the bottom number by the ones digit of the top number. Write the product under the equal bar in the ones place.

3. 72
 $\times 3$

216

Multiply the bottom number by the tens digit of the top number. Write the product under the equal bar to the left of the ones place.

Multiplying by a 1-Digit Number with Regrouping

Name _____ Class _____ Date _____

GET STARTED

①
$$\begin{array}{r} 21 \\ \times 3 \\ \hline \end{array}$$

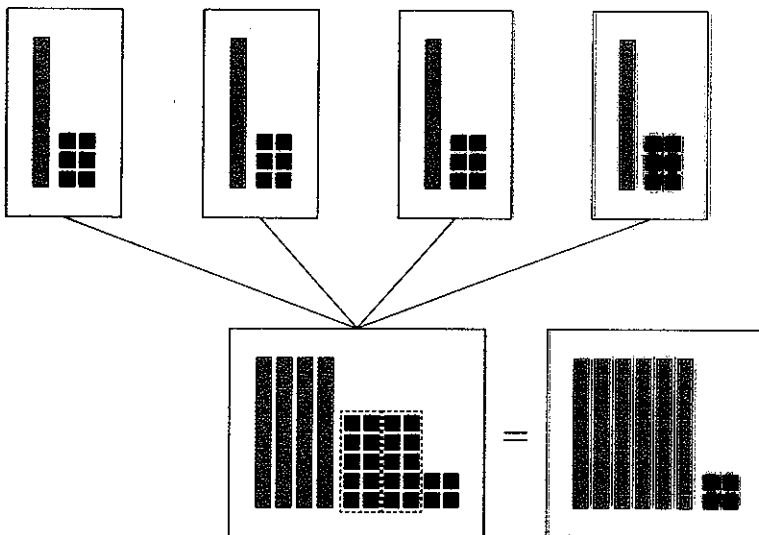
②
$$\begin{array}{r} 29 \\ + 15 \\ \hline \end{array}$$

③
$$\begin{array}{r} 13 \times 4 \\ 13 \\ \times 4 \\ \hline \end{array}$$

④
$$\begin{array}{r} 5 \times 215 \\ \times \\ \hline \end{array}$$

Use base-10 pieces to multiply 4 and 16.

**BUILD
THE
CONCEPT**



$4 \times 16 = \underline{\hspace{2cm}}$

TRY IT TOGETHER

Find each product. Regroup as needed.

5 869×2

$$\begin{array}{r} 869 \\ \times 2 \\ \hline \end{array}$$

6 6×316

$$\begin{array}{r} 316 \\ \times 6 \\ \hline \end{array}$$

7 58×8

$$\begin{array}{r} \\ \times 8 \\ \hline \end{array}$$

8 6×713

$$\begin{array}{r} \\ \times 6 \\ \hline \end{array}$$

WORK ON YOUR OWN

Multiply by a 1-Digit Number with Regrouping

Using Symbols

1. Multiply: 184×6

$$\begin{array}{r} 184 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ 184 \\ \times 6 \\ \hline 4 \end{array}$$

$$6 \times 4 = 24$$

Regroup:

$$24 \text{ ones} = 2 \text{ tens } 4 \text{ ones}$$

$$\begin{array}{r} 52 \\ 184 \\ \times 6 \\ \hline 04 \end{array}$$

$$6 \times 8 = 48 \quad 48 + 2 = 50$$

Regroup:

$$50 \text{ tens} = 5 \text{ hundreds } 0 \text{ tens}$$

$$\begin{array}{r} 52 \\ 184 \\ \times 6 \\ \hline 1,104 \end{array}$$

$$6 \times 1 = 6$$

$$6 + 5 = 11$$

Using Words

Write the problem vertically, with the number that has more digits on top. Line up the ones digits.

Multiply the bottom number by the ones digit of the top number. If the product has more than 1 digit, regroup.

Multiply the bottom number by the tens digit of the top number. Add any regrouped tens. If the sum has more than 1 digit, regroup.

Multiply the bottom number by the hundreds digit of the top number. Add any regrouped hundreds.

HOW TO