Understanding Subtraction

Name _____ Class _____ Date _____

GET STARTED

1. Miguel's boat can carry 6 people. Ray's boat can carry 7 people. How many total people can Miguel's and Ray's boats carry?

   _____ + _____ = _____ people

2. $7 - 5 =$ _____

   ⭐ ⭐ ⭐ ⭐ ⭐ ⭐ ⭐

3. Nick's cat had 8 kittens. He gave 3 of the kittens away. How many kittens are left?

   _____ − _____ = _____ kittens

4. Bob has 9 silver dollar fish in his fish tank. He has 4 angelfish in his fish tank. How many more silver dollar fish than angelfish does Bob have in his fish tank?

   _____ − _____ = _____ silver dollar fish

BUILD THE CONCEPT

Steph bought 7 bananas. She gave 3 bananas to her brother. How many bananas are left?

```
   ⌒ ⌒ ⌒
<——+——+——+——+——+——+——+——+——+——+——>
   0  1  2  3  4  5  6  7  8  9  10
```
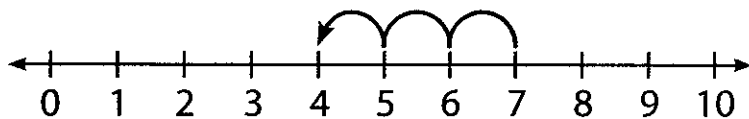
How many bananas did Steph buy? _____

How many bananas did she give away? _____

$7 - 3 =$ _____

Steph has _____ bananas left.

TRY IT TOGETHER

Write a number sentence for each problem. Then solve each problem.

5 There are 11 birds eating from a bird feeder. Then 6 birds fly away. How many birds are left at the bird feeder?

_____ − _____ = _____ birds

6 Chris has 12 balloons. David has 7 balloons. How many more balloons does Chris have than David?

_____ − _____ = _____ balloons

7 Eva has 10 crackers. She eats 8 crackers. How many crackers does she have left?

_____ − _____ = _____ crackers

Find each difference.

8 $14 − 4 =$ _____

9 $13 − 7 =$ _____

WORK ON YOUR OWN

HOW TO

Subtract Two Numbers

Using Symbols	Using Words
1. $8 − 2$	Begin with the greater number.
2. Count back 2: 8, 7, 6	Count back, or take away, the lesser number.
3. $8 − 2 = 6$	Write the difference.

New Vocabulary
Fact Family

Addition and Subtraction Fact Families

Name _____ Class _____ Date _____

GET STARTED

① 3 + 6 = _____   6 + 3 = _____

② 9 − 3 = _____   9 − 6 = _____

③ 3 + 6 = 9   9 − 6 = 3   _____, _____, _____
   6 + 3 = 9   9 − 3 = 6

④ 2, 4, 6
   2 + 4 = _____   6 − 4 = _____
   4 + _____ = _____   6 − _____ = _____

BUILD THE CONCEPT

_____ green apples   _____ red apples   _____ apples in all

5 green apples + 2 red apples = _____ apples in all

_____ red apples + _____ green apples = _____ apples in all

7 apples in all − 2 red apples = _____ green apples

_____ apples in all − _____ green apples = _____ red apples

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TRY IT TOGETHER

Write the addition and subtraction facts for each fact family.

5 7, 15, 8   _____ + _____ = _____   15 − _____ = _____

_____ + _____ = _____   _____ − _____ = _____

6 4, 4, 8   _____ + _____ = _____   _____ − _____ = _____

7 7, 16, 9   _____ + _____ = _____   _____ − _____ = _____

_____ + _____ = _____   _____ − _____ = _____

WORK ON YOUR OWN

Recognize Fact Families

HOW TO

Using Symbols

5, 6, 11

$5 + 6 = 11$ $11 − 6 = 5$
$6 + 5 = 11$ $11 − 5 = 6$

5, 5, 10

$5 + 5 = 10$ $10 − 5 = 5$

Using Words

Two addends and their sum can be used to make a fact family. Each fact in a fact family uses the same three numbers.

The three numbers in a fact family make two addition facts and two subtraction facts. The greatest number is the sum in the addition facts and the first number in the subtraction facts.

If the two lesser numbers are the same, the three numbers make one addition fact and one subtraction fact.

Missing Numbers in Addition and Subtraction Sentences

Name _____ Class _____ Date _____

GET STARTED

1 $5 + 4 =$ _____ $9 - 4 =$ _____

$4 + 5 =$ _____ $9 - 5 =$ _____

2 8, 14, 6   _____ + _____ = _____   _____ − _____ = _____

_____ + _____ = _____   _____ − _____ = _____

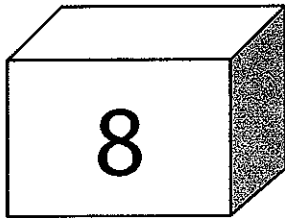**3** $5 +$ ☐ $= 8$ **4** $3 +$ ☐ $= 10$

5 $10 -$ ☐ $= 4$ **6** $11 -$ ☐ $= 6$

BUILD THE CONCEPT

Ned bought a box of 8 cupcakes. He ate some of the cupcakes. He now has 6 cupcakes left. How many cupcakes did Ned eat?

$$\boxed{8} - \boxed{?} = $$

☐ cupcakes in all − ☐? cupcakes = ☐ cupcakes left

☐ − ☐ = ☐

Ned ate _____ cupcakes.

Find the missing number in each addition or subtraction sentence.

7 $17 - = 12$

8 $4 + = 9$

9 $7 - = 2$

Find the Missing Number in an Addition or Subtraction Sentence

HOW TO

Using Symbols

$7 + \square = 11$

7, 8, 9, 10, 11

1 2 3 4

$7 + 4 = 11$

$12 - \square = 9$

12, 11, 10, 9

1 2 3

$12 - 3 = 9$

Using Words

For an addition sentence, begin with the given addend and count on to the given sum.

For a subtraction sentence, begin with the greater number and count back to the lesser number.

Problem-Solving: Choosing an Operation

Name _____ Class _____ Date _____

GET STARTED

1 Susan has 9 red balloons and 6 blue balloons. How many total balloons does Susan have?

　a. **Find:** _____

　b. **How?** _____

　c. **Solve.** _____ + _____ = _____ balloons

　d. **Is the answer reasonable? Explain.** _____

　_____

　_____

2 Mia had 15 grapes. She ate 7 grapes. How many grapes does Mia have left?

　a. **Find:** _____

　b. **Choose the operation.** _____

　c. **Solve.** _____ − _____ = _____ grapes

　d. **Is the answer reasonable? Explain.** _____

　_____

3 Will swam 12 laps on Saturday and 9 laps on Sunday. How many more laps did Will swim on Saturday?

　a. **Find:** _____

　b. **Choose the operation.** _____

　c. **Solve.** _____ − _____ = _____ laps

　d. **Is the answer reasonable? Explain.** _____

　_____

TRY IT TOGETHER

Solve the problem.

4 Pat has 8 pennies in her piggy bank. She puts 5 more pennies in her piggy bank. What is the total number of pennies in Pat's piggy bank?

a. **Find:** _____

b. **Choose the operation.** _____

c. **Solve.** _____ + _____ = _____ pennies

d. **Is the answer reasonable? Explain.** _____

_____

_____

WORK ON YOUR OWN

HOW TO

Choose the Correct Operation to Solve a Word Problem

Shauna bought 8 apples and 4 bananas. How many pieces of fruit did Shauna buy in all?

1. **Find:** how many pieces of fruit Shauna bought in all

2. **Choose the operation.** Use addition to solve problems that ask for how many in all or for the total number. Use subtraction to solve problems that ask for how many more or how many are left. Use addition in this problem.

3. **Solve.** 8 + 4 = 12 pieces of fruit

4. **Is the answer reasonable? Explain.** Yes, the total number of pieces of fruit is greater than the number of apples and is greater than the number of bananas.

Subtracting 2-Digit Numbers with No Regrouping

Name _____ Class _____ Date _____

GET STARTED

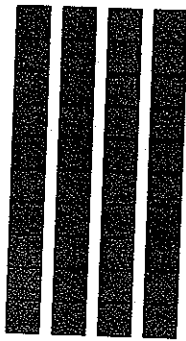**1** a. $5 - 3 =$ _____

b. $9 - 3 =$ _____

2 $12 - 3 =$ _____

3 $67 - 36$

$$\begin{array}{r} 67 \\ -\ 36 \\ \hline \end{array}$$

4 $34 - 12$

$$\begin{array}{r} \\ -\ \\ \hline \end{array}$$

BUILD THE CONCEPT

Use the base-10 pieces to find 46 minus 34.

$$\begin{array}{r} 46 \\ -\ 34 \\ \hline \end{array}$$

TRY IT TOGETHER

Find each difference.

5 86 − 56

_____
_____

6 48 − 23

_____
_____

7 72 − 30

_____
_____

8 59 − 44

_____
_____

WORK ON YOUR OWN

Subtract 2-Digit Numbers with No Regrouping

HOW TO

Using Symbols	Using Words
1. 76 − 42 76 − 42 ─────	Write the greater number above the lesser number. Line up the digits with the same place value.
2. 76 − 42 ───── 4	Subtract the digits in the ones column. Write the difference under the equal bar in the ones column.
3. 76 − 42 ───── 34	Subtract the digits in the tens column. Write the difference under the equal bar in the tens column.

So, 76 minus 42 equals 34.

Problem-Solving: Using a Table

Name _____ Class _____ Date _____

GET STARTED

① 38 + 1   38
                  + 1
                  _____

② 38 − 24   38
                  − 24
                  _____

③ Mr. Moore's students voted for their favorite pet. The results are shown in the table. How many more students chose dogs than cats as their favorite pet?

Pets	Number
Dogs	38
Hamsters	20
Fish	1
Cats	24

a. **Find:** _____

_____

b. **How?** _____

_____

c. **Solve.**

Votes for dogs = _____

Votes for cats = _____

_____ − _____ = _____ students

d. **Is the answer reasonable? Explain.** _____

_____

④ How many students voted for hamsters and fish?

_____ + _____ = _____ students

TRY IT TOGETHER

Use the table to solve the problem.

5 Ben made a table to show the number of animals on his uncle's farm. How many horses and cows are on the farm?

Animals	Number
Horses	18
Cows	37
Pigs	22
Goats	47

a. Find: _____

_____

b. How? _____

_____

c. Solve. _____ + _____ = _____ horses and cows.

d. Is the answer reasonable? Explain. _____

_____

WORK ON YOUR OWN

Solve a Problem Using a Table

HOW TO

The table shows the numbers of math problems completed by 4 students. How many problems did Jane and Vicky complete altogether?

Student	Number
Vicky	28
Henry	19
Jane	34
David	34

1. **Find:** how many problems Jane and Vicky completed altogether

2. **How?** Identify the information in the table. Add to find the sum.

3. **Solve.**

   Jane: 34 problems   Vicky: 28 problems

   $34 + 28 = 62$

   Jane and Vicky completed 62 problems altogether.

4. **Is the answer reasonable? Explain.** Yes, the estimated sum is $30 + 30 = 60$, and 62 is close to 60.

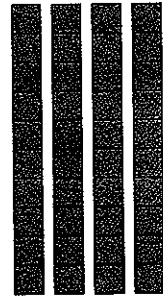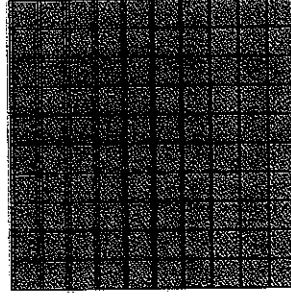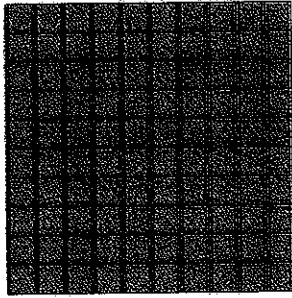# Subtracting 3-Digit Numbers with No Regrouping
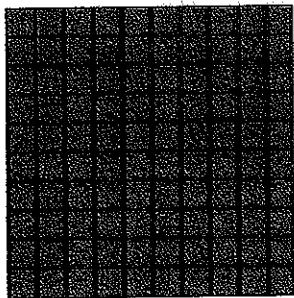
Name _____ Class _____ Date _____

GET STARTED

1 35 − 23

$$
\begin{array}{r}
35 \\
-\ 23 \\
\hline
\end{array}
$$

2 357 − 135

$$
\begin{array}{r}
357 \\
-\ 135 \\
\hline
\end{array}
$$

3 485 − 214

$$
\begin{array}{r}
485 \\
-\ 214 \\
\hline
\end{array}
$$

BUILD THE CONCEPT

Use the base-10 pieces to find 347 minus 104.

$$
\begin{array}{r}
347 \\
-\ 104 \\
\hline
\end{array}
$$

TRY IT TOGETHER

Find each difference.

4.
```
  846
- 304
_____
```

5.
```
  257
- 130
_____
```

6. 385 − 324

```
_____
```

7. 298 − 154

```
_____
```

WORK ON YOUR OWN

HOW TO

Subtract 3-Digit Numbers with No Regrouping

Using Symbols	Using Words
1. 879 − 430 879 − 430 _____	Write one number under the other with the greater number on top. Line up the digits with the same place value.
2. 879 −430 _____ 9	Subtract the digits in the ones column.
3. 879 − 430 _____ 49	Subtract the digits in the tens column.
4. 879 −430 _____ 449	Subtract the digits in the hundreds column.

So, 879 minus **430** equals **449**.

Subtracting 2-Digit Numbers with Regrouping

Name _____ Class _____ Date _____

GET STARTED

1)
```
  86
- 54
```

2) 48 − 42

___

3) 52 − 19

```
  4
  5̸2
- 19
```

4) 64 − 28

```
  64
- 28
```

BUILD THE CONCEPT

Corey has 35 seashells. He gives away 18 seashells. How many seashells does Corey have left?

Can Corey subtract the ones digits? _____

Regroup 3 tens and 5 ones as _____ tens and _____ ones.

Corey has _____ seashells left.

Find each difference. Regroup as needed.

5 73
    − 56
    _____

6 46
    − 39
    _____

7 83 − 27
    _____

Subtract 2-Digit Numbers with Regrouping

HOW TO

Using Symbols

1. 64 − 28

    64
    − 28
    _____

2. ⁵¹⁴
    6̶4̶
    − 28
    _____

3. ⁵¹⁴
    6̶4̶
    − 28
    _____
    6

4. ⁵¹⁴
    6̶4̶
    − 28
    _____
    36

So, 64 minus 28 **equals 36.**

Using Words

Write one number under the other with the greater number on top. Line up the digits with the same place value.

To regroup, take 1 ten from the top digit in the tens column and add it to the top digit in the ones column. Rename the digit in the ones column to include the ten.

Subtract the digits in the ones column.

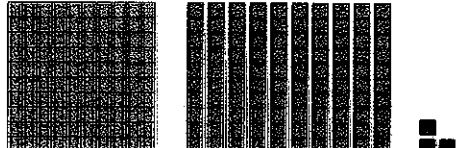Subtract the digits in the tens column.

Subtracting 3-Digit Numbers with 1 Regrouping

Name _____ Class _____ Date _____

GET STARTED

1

___ hundreds ___ tens ___ ones   ___ hundred ___ tens ___ ones
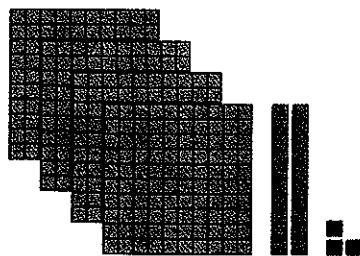
2 203 − 101

− _____

3 203 − 172   203
                    − 172
                    _____

4 733 − 524   733
                    − 524
                    _____

- -

BUILD THE CONCEPT

Use the base-10 pieces to find 423 minus 151.

4 hundreds 2 tens 3 ones   3 hundreds 12 tens 3 ones
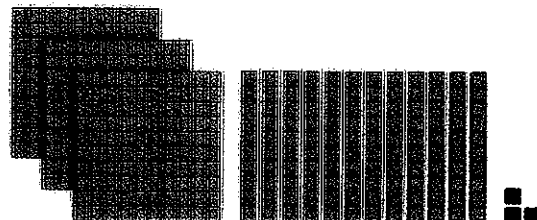
$$\begin{array}{r} {}^{3\,12}\!\!\!\not{4}2 3 \\ -\ 151 \\ \hline \end{array}$$

TRY IT TOGETHER

Find each difference. Regroup as needed.

5
```
   242
 - 135
 _____
```

6
```
   266
 -  92
 _____
```

7 517 − 233

8 685 − 38

```
 _____        _____
```

WORK ON YOUR OWN

Subtract 3-Digit Numbers with 1 Regrouping

HOW TO

Using Symbols	Using Words
1. 745 − 572 745 − 572 _____	Write one number under the other with the greater number on top. Line up the digits that have the same place value.
2. 745 −572 _____ 3	**If the ones digit of the top number is less than the ones digit of the bottom number, regroup. Subtract the digits in the ones column.**
3. ^{6 14} 745 − 572 _____ 73	If the tens digit of the top number is less than the tens digit of the bottom number, regroup. Subtract the digits in the tens column.
4. ^{6 14} 745 −572 _____ 173	**Subtract the digits in the hundreds column.**

So, 745 minus 572 equals 173.

Subtracting 3-Digit Numbers with 2 Regroupings

Name _____ Class _____ Date _____

GET STARTED

1 217 − 103

−
_____

2 864 − 225

−
_____

3 714 − 387

```
   10
  6 Ø 14
  7 1 4
−   387
```

4 561 − 469

```
  561
− 469
```

BUILD THE CONCEPT

There are 342 pages in Victor's book. He has read 297 pages.
How many pages does Victor have left to read?

Hundreds	Tens	Ones
3 − 2	4 9	2 7

Regroup tens as ones:

3 hundreds, 4 tens, 2 ones = **3 hundreds,** _____ **tens,** _____ ones

Regroup hundreds as tens:

3 hundreds and 3 tens = _____ **hundreds and** _____ tens

There are _____ pages left in Victor's book.

TRY IT TOGETHER

Find each difference. Regroup as needed.

5

$$
\begin{array}{r}
683 \\
- \ 188 \\
\hline
\end{array}
$$

6 172 − 94

$$
\begin{array}{r}
\\
- \\
\hline
\end{array}
$$

7 723 − 236

$$
\begin{array}{r}
\\
- \\
\hline
\end{array}
$$

WORK ON YOUR OWN

Subtract 3-Digit Numbers with 2 Regroupings

HOW TO

Using Symbols	Using Words
1. 467 − 268 $$\begin{array}{r} 467 \\ - \ 268 \\ \hline \end{array}$$	Write one number under the other with the greater number on top. Line up digits that have the same place value.
2. $$\begin{array}{r} \overset{5\ 17}{46\!\!\!/7} \\ - \ 268 \\ \hline 9 \end{array}$$	If the ones digit of the top number is less than the ones digit of the bottom number, regroup. Subtract the digits in the ones column.
3. $$\begin{array}{r} \overset{15}{3\ \cancel{5}\ 17} \\ 46\!\!\!/7 \\ - \ 268 \\ \hline 99 \end{array}$$	If the tens digit of the top number is less than the tens digit of the bottom number, regroup. Subtract the digits in the tens column.
4. $$\begin{array}{r} \overset{15}{3\ \cancel{5}\ 17} \\ 46\!\!\!/7 \\ - \ 268 \\ \hline 199 \end{array}$$ So, 467 minus 268 equals 199.	Subtract the digits in the hundreds column.

Estimating Differences

Name _____ Class _____ Date _____

GET STARTED

1)
```
   368
 - 145
 _____
```

2) 368 ⟶ _____

145 ⟶ _____

3)
```
  368  ⟶   400
- 145  ⟶  - 100
_____    _____
```

4) 89 − 37

89 ⟶

```
- 37  ⟶  -
_____   _____
```

BUILD THE CONCEPT

Estimate the difference: 87 − 34.

Round 87 to the nearest ten.   Round 34 to the nearest ten.

```
 ◄─┼──┼──┼──┼──┼──●──┼──┼──►        ◄─┼──┼──┼──●──┼──┼──┼──┼──┼──►
  80        85   87    90            30        34  35          40
```
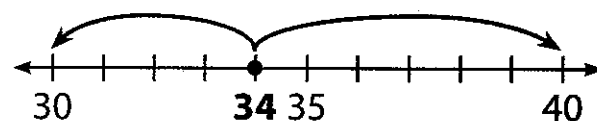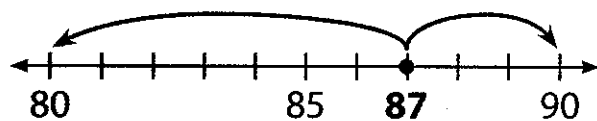
87 is closer _____.   34 is closer to _____.

```
  87  ⟶   ▢
- 34  ⟶  - ▢
_____    ▢
```

So, the estimated difference of for 87 minus 34 is _____.

TRY IT TOGETHER

Estimate each difference.

5.   42 →
     − 17 →   −
     _____

6.   563 →
     − 330 →   −
     _____

7.   88 − 54

     88 →
     − 54 →   −
     _____

8.   216 − 104

     216 →
     − 104 →   −
     _____

WORK ON YOUR OWN

Estimate a Difference

HOW TO

Using Symbols

1.   671 →   **700**
     − 128 → − **100**
     _____

Using Words

Round each number to its greatest place value.

2.   700
     − 100
     _____
     600

So, the estimated difference for 671 minus 128 is 600.

Subtract the rounded numbers.