1

Estimating Sums

Goal **Estimate in addition situations.**

1. Estimate the number of riders.

Number of Riders

Day	Roller coaster	Spin-a-wheel
Monday	215	347
Tuesday	268	553

Estimates will vary. Examples are given.

a) on Monday _____ 550 _____

b) on Tuesday _____ 850 _____

c) on the roller coaster _____ 500 _____

2. Write addition sentences to show 2 ways to estimate the total number of spin-a-wheel riders in Question 1.

$300 + 600 = 900$

$350 + 550 = 900$

3. Estimate each sum. Write the addition sentence for the estimate.

a) 324 + 378 _____ $300 + 400 = 700$ _____

b) 176 + 217 _____ $200 + 200 = 400$ _____

c) 538 + 129 _____ $550 + 125 = 675$ _____

4. Circle the best estimate for 352 + 356.

A. 400 + 400   **B.** 300 + 300   **C.** 300 + 50 + 300 + 50

5. a) Use one colour to circle 2 numbers below whose sum is between 500 and 600. *(circled in black)*

b) Use another colour to circle 2 different numbers below whose sum is between 500 and 600. *(circled in grey)*

295   274   453   317   374   95

> **At-Home Help**
>
> You use easy-to-add numbers to estimate sums. The numbers can be rounded to the nearest multiple of 10, 100, or 25. You can round both numbers or only one number.
>
> For example, 126 + 149 could be estimated as
> - 130 + 150 = 280 by rounding to the nearest 10
> - 125 + 150 = 275 by thinking about quarters
> - 126 + 150 = 276 by rounding only one number

2

Adding with Base Ten Blocks

Goal **Add 2-digit and 3-digit numbers using concrete materials.**

Museum Visitors

Time	Number of visitors
10 a.m. – 11 a.m.	137
11 a.m. – 12 p.m.	158
12 p.m. – 1 p.m.	212

At–Home Help

Base ten blocks representing hundreds, tens, and ones can be used to model addition.

323 + 38 is shown as
3 hundreds, 5 tens, 11 ones.

Regroup the 11 ones as
1 ten 1 one to get
3 hundreds, 6 tens, 1 one.
So 323 + 38 = 361.

1. Draw the base ten blocks you would use to model each number.

a) 137

b) 158

c) 212

2. Complete the chart.

	Time period	Blocks to show total number of visitors	Number of visitors
a)	10 a.m. – 12 p.m.	_2_ hundreds _8_ tens _15_ ones	295
b)	11 a.m. – 1 p.m.	_3_ hundreds _6_ tens _10_ ones	370
c)	10 a.m. – 1 p.m.	_4_ hundreds _9_ tens _17_ ones	507

3 Adding 2–Digit and 3–Digit Numbers

Goal **Add 2-digit and 3-digit numbers using pencil and paper.**

1. Estimate each sum. Then calculate.

Estimates will vary. Examples are given.

a) 137 + 152

Estimate ___*290*___   Calculate ___*289*___

b) 238 + 134

Estimate ___*370*___   Calculate ___*372*___

c) 372 + 153

Estimate ___*525*___   Calculate ___*525*___

At–Home Help

To add 2-digit and 3-digit numbers, find the total numbers of ones, tens, and hundreds. Regroup where necessary.

For example,

```
  11
  456   14 ones is 1 ten 4 ones.
 + 78   13 tens is 1 hundred 3 tens.
  534
```

---

2. Diane has 138 pennies in one piggy bank and 285 pennies in another. How many pennies does she have in all?

423 pennies

3. Add.

a)   318
      + 219
      ─────
       537

b)   164
       + 65
      ─────
       229

c)   538
      + 149
      ─────
       687

d)   447
      + 384
      ─────
       831

4. Marg needs 500 stamps to win a prize. She has 329. Her sister gives her 175. Does she have enough now? Show your work.

Yes.
329 + 175 = 504
504 is greater than 500.

5. The same digit goes in each place. What is the missing digit?

4 __*8*__ __*8*__ + 3 __*8*__ __*8*__ = __*8*__ 76

4

Communicate a Solution to a Problem

Goal **Explain a solution to a problem.**

Solve this problem. Explain each of your steps. Use the Problem-Solving Steps and the Communication Checklist.

1. Ben and Glynis used 177 building block pieces to build 2 robots. Glynis used 21 more pieces than Ben. How many pieces did Ben use?

   For example:

   Understand the Problem: Ben's number of pieces and Glynis's

   number of pieces add to 177. Glynis's number is 21 more than Ben's.

   Make a Plan: I will try guessing and testing different numbers.

   Carry Out the Plan:

Ben 100	*Glynis 121*	*Total 211*	*(too high)*
Ben 50	*Glynis 71*	*Total 121*	*(too low)*
Ben 80	*Glynis 101*	*Total 181*	*(just 4 to high)*

   I will give each person 2 fewer pieces.

Ben 78	*Glynis 99*	*Total 177*	*(correct)*

   So Ben used 78 pieces.

5 Estimating Differences

Goal **Estimate in subtraction situations.**

1. 500 bottles are needed to win a prize. About how many more bottles does each student need to collect?

Student	Devon	Mona	Rebecca
Bottles collected	89	217	264

Estimates will vary. Examples are given.

a) Devon _____ 400

b) Mona _____ 300

c) Rebecca _____ 200

2. Write subtraction sentences to show 2 ways to estimate how many more bottles Mona has than Devon in Question 1.

200 – 100 = 100

220 – 100 = 120

3. Estimate each difference. Write the subtraction sentence for the estimate.

a) 413 − 218 _____ 400 – 200 = 200

b) 487 − 369 _____ 500 – 400 = 100

c) 614 − 168 _____ 600 – 200 = 400

4. Circle the best estimate for 647 − 264.

A. 600 − 300   **B.** 600 − 200   **C.** 650 − 275 ⟵ *(circled)*

5. a) Use one colour to circle 2 numbers below whose difference is between 300 and 400. (circled in black)

b) Use another colour to circle 2 different numbers below whose difference is between 300 and 400. (circled in grey)

562   158   18   397   522

At-Home Help

You use easy-to-subtract numbers to estimate differences. You can round to the nearest multiple of 10 or 100 and take away.

You can also round to the nearest multiple of 10 or 100 and count up. You can round both numbers or only one number.

For example, 539 − 278 could be estimated as

- 500 − 300 = 200 by rounding to the nearest 100 and taking away
- 540 − 280 = 260 by rounding to the nearest 10 and counting up from 280: 20 to 300, 200 more to 500, and 40 more to 540
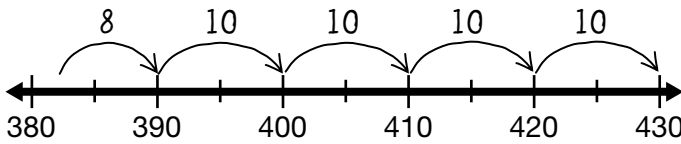- 539 − 300 = 239 by rounding only one number
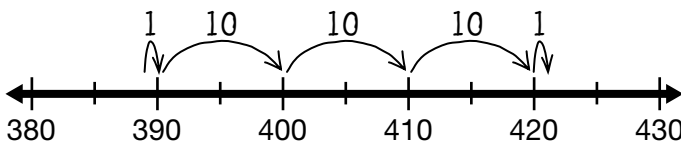
6
Adding and Subtracting to Compare

Goal **Compare numbers using addition and subtraction.**
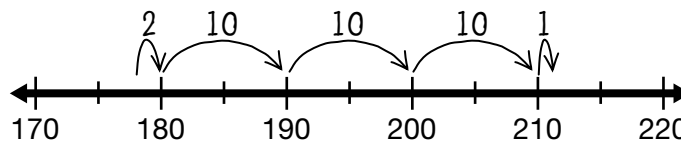
1. Add on to solve each.

a) $430 - 382 =$ _____ 48

8   10   10   10   10

380   390   400   410   420   430

b) $421 - 389 =$ _____ 32

1   10   10   10   1

380   390   400   410   420   430

c) $211 - 178 =$ _____ 33

2   10   10   10   1

170   180   190   200   210   220

> **At–Home Help**
>
> With a subtraction question, you can add on to the number being subtracted or count back from the total.
>
> For example, to calculate $316 - 291$
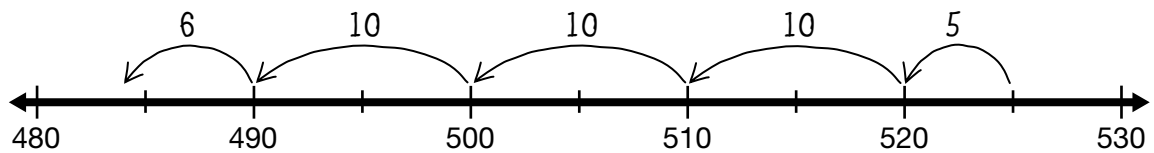>
> 9   10   6
>
> 290   300   310   320
>
> 9   10   6
>
> 290   300   310   320
>
> $316 - 291 = 25$
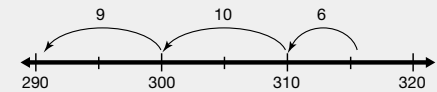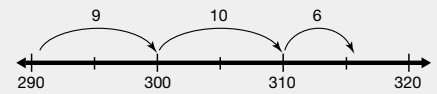
2. Jump back to solve each.

a) $431 - 397 =$ _____ 34

3   10   10   10   1

390   400   410   420   430   440

b) $525 - 484 =$ _____ 41

6   10   10   10   5

480   490   500   510   520   530

c) $477 - 389 =$ _____ 88

1   10   10   10   10   10   10   10   10   7

380   390   400   410   420   430   440   450   460   470   480   490
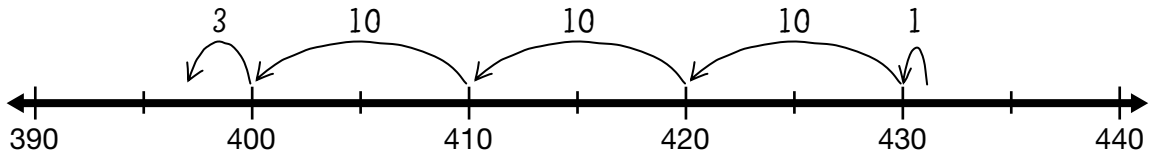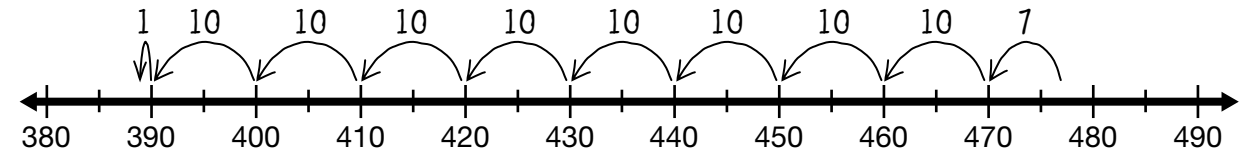
3. Draw a base ten block picture to show adding on to solve $417 - 161$. Write the difference. _____ 256
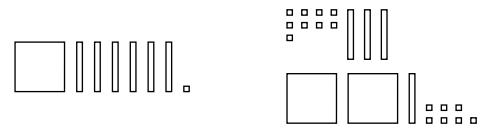
Subtracting from 3-Digit Numbers

Goal **Subtract from 3-digit numbers using pencil and paper.**

1. Estimate each difference. Then calculate.

Estimates will vary. Examples are given.

a) 678 − 384

Estimate ___300___   Difference ___294___

b) 714 − 328

Estimate ___400___   Difference ___386___

c) 436 − 276

Estimate ___100___   Difference ___160___

At-Home Help
To subtract from 3-digit numbers, find how many ones, tens, and hundreds are left. Regroup where necessary. For example,

3 14
4̸ 16   5 tens and 6 ones is
4 5̸ 6   4 tens and 16 ones.
− 7 8   4 hundreds and 4 tens is
3 7 4   3 hundreds and 14 tens.

2. Derek has 138 nickels and 285 pennies in his piggy bank. How many more pennies does he have?

147 more

3. Subtract.

a)   318
     − 214
    ___104___

b)   164
     − 25
    ___139___

c)   538
     − 149
    ___389___

d)   423
     − 388
     ___35___

4. Megan has 371 stickers. She gives 145 away. How many does she have left?

226 left

5. The same digit goes in each place. What is the missing digit?

__4__ 33 − 38 __4__ = __4__ 9

8 Adding and Subtracting Money

Goal **Add and subtract money using different methods.**

Midtown Diner MENU

Pie $1.29

Sandwich $3.45

Juice $0.99

Milk $1.25

Soup $2.15

At-Home Help

When adding and subtracting prices, think of dollars, dimes, and pennies like hundreds, tens, and ones.

For example, to find the total of items costing $1.39 and $2.47, think
1 loonie + 3 dimes + 9 pennies
and
2 loonies + 4 dimes + 7 pennies.
The total is 3 loonies, 7 dimes, and 16 pennies. Trade the pennies and the total is $3.86.

To find out how much more an item that costs $2.47 is than one that costs $1.39, think
2 loonies + 4 dimes + 7 pennies
is the same as
2 loonies + 3 dimes + 17 pennies.
If you compare this to
1 loonie + 3 dimes + 9 pennies, there is 1 more loonie and 8 more pennies. The difference is $1.08.

1. What is the total cost of the items?

a) sandwich and soup

   $5.60

b) juice and sandwich

   $4.44

c) pie and milk

   $2.54

2. How much more does one item cost than the other?

a) milk than juice

   $0.26

b) sandwich than soup

   $1.30

c) soup than pie

   $0.86

3. Daniel has $9.00. He wants to buy everything on the menu. Does he have enough money? Show your work.

   No. For example, $1 + $3 + $1 + $1 + $2 = $8 and
   29¢ + 45¢ + 25¢ + 15¢ – 1¢ is more than $1.

Calculating Change

Goal   Make purchases and change for amounts up to $10.00.

You will need a calculator.

1. Calculate the change.

a) You have $5.00. A toy costs $1.39.

The change is ___$3.61___.

b) You have $5.00. A ball costs $2.89.

The change is ___$2.11___.

c) You have $10.00. A skipping rope

costs $3.19. The change is ___$6.81___.
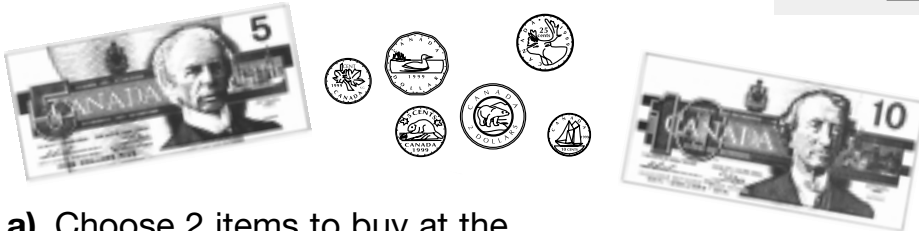
2. a) Choose 2 items to buy at the Midtown Sports sale.

Answers will vary. Examples are given.

baseball and T-ball bat

b) How much do the 2 items cost

together? ___$8.79___

c) What is your change from $10.00 for the

2 items? ___$1.21___

Midtown Sports Sale

Baseball $5.50
T-ball bat $3.29
Nose plug $1.19
T-shirt $4.73
Flip-flops $1.17

d) Find 3 items to buy that cost less than $10.00 together.

T-shirt, flip-flops, and nose plug

e) What is your change from $10.00 for the 3 items? ___$2.91___

10 Choosing a Calculation Method

Goal **Choose the best way to add or subtract.**

You will need a calculator.

1. Circle in red 2 questions that you will calculate mentally.
Circle in green 2 questions that you will solve with a calculator.
Circle in blue 2 questions that you will solve on paper.
Solve each using the method you planned.

Methods will vary.

a) $318 + 199 =$ _____ 517

b) $468 + 357 =$ _____ 825

c) $201 - 198 =$ _____ 3

d) $314 - 103 \ =$ _____ 211

e) $153 + 224 =$ _____ 377

f) $800 - 362 =$ _____ 438

At–Home Help

How you add or subtract depends on the numbers.

You could add $312 + 99$ in your head. Think:
$312 + 100 - 1 = 412 - 1$
$= 411$

You might use a calculator to find $461 - 173$ because there is a lot of regrouping.

⟦4⟧⟦6⟧⟦1⟧⟦−⟧⟦1⟧⟦7⟧⟦3⟧⟦=⟧ ⟦288⟧

You might use paper when the numbers are easier.
```
  325
+ 413
  738
```

2. Calculate using the method of your choice.

a)
```
  372
+ 576
  948
```

c)
```
  185
+ 526
  611
```

e)
```
  409
+ 386
  795
```

g)
```
  628
+ 149
  777
```

b)
```
  526
- 434
   92
```

d)
```
  713
- 299
  414
```

f)
```
  465
- 386
   79
```

h)
```
  424
- 202
  222
```

Test Yourself

Circle the correct answer.

1. Choose the best estimate for 339 + 278.

   A. 300   **B.** 400   **C.** 500   **D. 600**

2. Which sum is about 700?

   E. 360 + 478   **F. 275 + 388**   **G.** 689 + 146   **H.** 348 + 226

3. Which sum is 765?

   A. 339 + 436   **B. 248 + 517**   **C.** 382 + 483   **D.** 389 + 486

4. What is 537 + 264?

   E. 801   **F.** 791   **G.** 701   **H.** 802

5. Choose the best estimate for 723 − 179.

   A. 300   **B.** 400   **C. 500**   **D.** 600

6. Which difference is about 400?

   E. 820 − 478   **F.** 329 − 125   **G. 806 − 387**   **H.** 679 − 212

7. Which difference is 266?

   A. 642 − 276   **B.** 781 − 565   **C.** 502 − 368   **D. 531 − 265**

8. What is 815 − 337?

   E. 378   **F. 478**   **G.** 472   **H.** 372

9. What is the total cost if one toy costs $2.17 and another costs $3.48?

   A. $5.65   **B.** $5.56   **C.** $5.55   **D.** $6.65

10. How much more is a T-shirt that costs $8.57 than a pair of goggles that costs $2.98?

    E. $5.59   **F.** $5.57   **G.** $6.59   **H.** $6.57

11. A pair of goggles costs $2.98. How much change should Ann get from $10.00 if she buys 2 pairs of goggles?

    A. $7.02   **B. $4.04**   **C.** $6.98   **D.** $4.08