Reveal
MATH®

Reveal the Full Potential
in Every Student

Use Place Value to Fluently Add and Subtract within 1,000

Focus Question

How can I use strategies to add and subtract efficiently?

Hi, I'm Saffron.

I want to be a pastry chef! An angel food cake recipe says to use a peach, a pear, and some strawberries. Each fruit has a different mass. To make this dessert, I need to find the mass of all the fruits combined. To be a pastry chef, it is important to know how to use place value to add and subtract.

STEM video | GO ONLINE

Name

Penny Estimation

Listen to your teacher. Estimate the number of pennies that will fit in each rectangle.

A

B

C

Represent 4-Digit Numbers

? Be Curious

What do you notice?
What do you wonder?

Math is... **Mindset**

How does identifying your feelings and emotions help you?
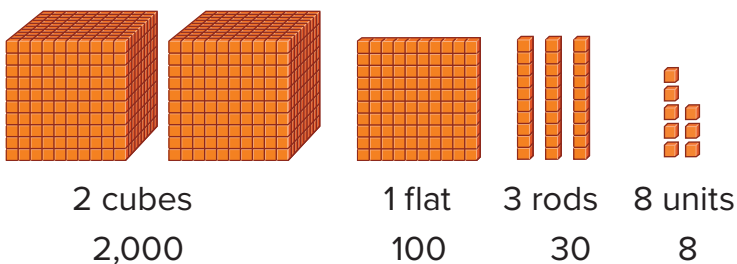
Learn

What are some ways to represent this number?

4-digit numbers have thousands, hundreds, tens, and ones.

2,138 fish

You can use place-value charts.

thousands	hundreds	tens	ones
2	1	3	8

You can use base-ten blocks.

2 cubes	1 flat	3 rods	8 units
2,000	100	30	8

You can read and write the number in different forms.

standard form   2,138

expanded form $2,000 + 100 + 30 + 8$

word form   two thousand, one hundred thirty-eight

You can use an understanding of place value to represent a 4-digit number.

> **Math is...** **Generalizations**
>
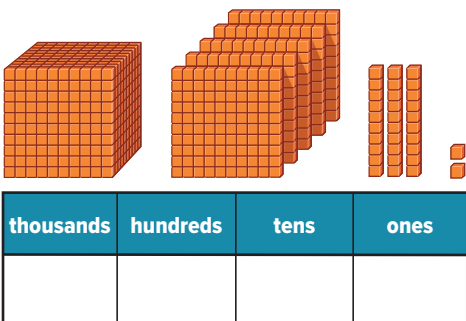> How is representing 4-digit numbers the same as representing 3-digit numbers?

🗨 Work Together

How can you represent 1,208 in expanded form and word form?

Name

What number is represented by the base-ten blocks?

1.

thousands	hundreds	tens	ones

2.

thousands	hundreds	tens	ones
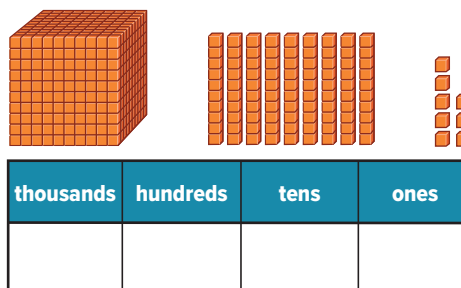
How can you represent the number in the place-value chart and in expanded form?

3. 2,446

thousands	hundreds	tens	ones

_____

4. 4,729

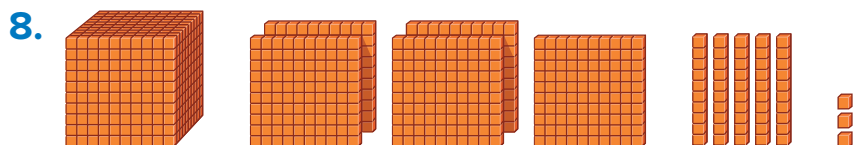| thousands	hundreds	tens	ones

_____

How can you represent the number shown in standard form and expanded form?

5. three thousand, one hundred twelve

_____   _____

6. six thousand, eighty-seven

_____   _____

7. seven thousand, two hundred twenty-four

_____   _____

How can you represent the number shown in standard form and expanded form?

8.

_____   _____

How can you represent the number in standard form?

9. $8{,}000 + 500 + 2$

10. $9{,}000 + 50 + 2$

_____   _____

11. STEM Connection 1,455 customers visited Saffron's pastry shop this month. Last month 1,355 customers came to the shop. Explain how she can use place value to determine the difference in the number of customers.

12. Extend Your Thinking Use the digits shown to write a number with the least possible value. Write the number in standard form, expanded form, and word form.

| 3 | 8 | 8 | 2 |

_____   _____

_____

🔄 Reflect

How does place value help you write a number in word form?

Math is... **Mindset**

What feelings did you experience today and how did you know?

Round Multi-Digit Numbers

Be Curious

What do you notice?
What do you wonder?

Math is... **Mindset**

What can you do to work together with your classmates?

Learn

About how many blocks are there?

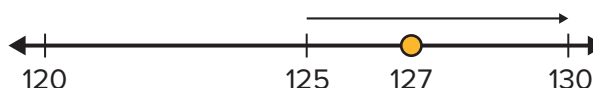You can round to describe about how many.

When you **round** to the nearest 10 or 100, you determine a ten or a hundred that is close to the original number.

127 blocks

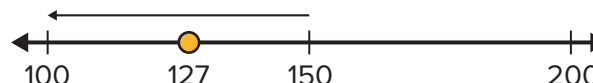▶ **One Way** Use a number line to round.

Round to the nearest 10.

127 is to the right of the halfway point. It rounds to 130.

Round to the nearest 100.

127 is to the left of the halfway point. It rounds to 100.

▶ **Another Way** Use place value to round.

| Round to the nearest 10. | 12**7** | Round to the nearest 100. | 1**2**7 |
| If the digit in the ones place is 5 or greater, round up. | 130 | If the digit in the tens place is less than 5, round down. | 100 |

You can round to make a number easier to work with when an exact number is not needed.

Math is... **Generalizations**

When is rounding a useful strategy?

💬 Work Together

Ellie rounds 255 to 260. Carter rounds 255 to 300. Why are their numbers different?

On My Own

Name _____

How can you use a number line to round?

1. Round 27 to the nearest 10.

_____

2. Round 896 to the nearest 10.

_____

How can you use place value to round?

3. Round 48 to the nearest 10.

_____

4. Round 273 to the nearest 10.

_____

How can you use a number line to round? Show your work.

5. Round 436 to the nearest 100.

6. Round 672 to the nearest 100.

436 rounded to the nearest 100 is _____.

672 rounded to the nearest 100 is _____.

7. Why can the number 78 round to 80 and 100? Explain.

8. A number rounded to the nearest 10 is 240. What number could it be? _____

9. How can you use the number line to show why 678 rounded to the nearest 100 is 700? Explain your reasoning.

10. Error Analysis Tess says that 315 rounded to the nearest 10 is 310. Do you agree? Explain your reasoning.

11. Jack is making a fruit salad. He puts in 9 strawberries, 25 orange wedges, 19 kiwi slices, 27 blueberries, 16 grapes, and 21 raspberries. Which fruits does he use about 20 of?

12. Extend Your Thinking Sam is shopping. He has $50. He wants to buy dog food that costs $15, vegetables that cost $22, and fruits that cost $12. How can Sam use rounding to make sure he has enough money?

🕑 Reflect

When might you want to round to the nearest 10 instead of the nearest 100?

Math is... **Mindset**
How did you work together with your classmates?

Rounding Numbers

Name _____

Circle *all* correct answers for the problem.

1. Suppose you rounded to the nearest 10. Which numbers below would round to 630? Circle *all* of them.

   a. 632

   b. 638

   c. 627

   d. 625

   e. 623

   f. 635

   g. 534

   h. 529

Explain your choices.

Circle *all* correct answers for the problem.

2. Suppose you rounded to the nearest 100. Which numbers below would round to 900? Circle *all* of them.

    a. 956

    b. 871

    c. 943

    d. 839

    e. 962

    f. 819

    g. 988

    h. 925

Explain your choices.

Reflect On Your Learning

I am confused.	I'm still learning.	I understand.	I can teach someone else.

Estimate Sums and Differences

? Be Curious

What could you ask?

Math is... **Mindset**

How can you recognize and understand how others are feeling?

Learn

Carter is 122 centimeters tall. The giraffe is 576 centimeters tall.

About how much taller is the giraffe?

Compatible numbers are numbers that are easy to work with.

▶ **One Way** Round to the nearest 10 or 100.

$576 - 122 = ?$

$580 - 120 = 460$

$576 - 122 = ?$

$600 - 100 = 500$

▶ **Another Way** Use other compatible numbers.

$576 - 122 = ?$

$575 - 125 = 450$

Math is... ◀ **Choosing Tools**

How can estimating a sum or difference help to detect possible errors?

You can use compatible numbers to **estimate** an answer when you do not need an exact sum or difference.

💬 Work Together

An elephant eats 428 pounds of food on Thursday and 503 pounds of food on Friday. About how many pounds of food does the elephant eat in the two days?

On My Own

Name _____

How can you estimate the sum or difference?
Write or draw to show your thinking.

1. $423 + 168 = ?$

2. $? = 695 - 205$

3. $? = 317 + 248$

4. $473 + 218 = ?$

5. $798 - 307 = ?$

6. $? = 835 - 466$

---

7. How can you use rounding to find the sum of $389 + 223$?

8. A complete set of baseball cards has 678 cards. Julio needs 273 more cards to complete his set. How can you use rounding to find about how many cards are in Julio's collection?

9. The Comic Book Shack displays 318 comic books near the front door and keeps 502 comic books in the storage room. How can you use compatible numbers to find about how many comic books are in the store?

10. **STEM Connection** Saffron's bakery needs to decorate 355 cupcakes for an event. It has decorated 223 so far. How can she determine about how many more cupcakes they need to decorate? Explain your reasoning.

11. Melinda estimates she traveled 830 miles last Monday and Tuesday. She traveled 412 miles on Tuesday. About how many miles could she have traveled on Monday?

12. **Extend Your Thinking** Jason has 744 flyers to deliver. If he has delivered 62 flyers at each of his last 2 stops, about how many flyers does he have left to deliver?

🌀 Reflect

When might you need to estimate a sum or difference in your life?

Math is... **Mindset**

How have you worked to understand how others are feeling?

Use Addition Properties to Add

? Be Curious

At the school carnival, Billy won some tickets at balloon darts, more tickets at ring toss, and the most tickets at basketball toss.

Math is... **Mindset**

How can you explain your thinking?

Learn

At the school carnival, Billy won 27 tickets at balloon darts, 40 tickets at ring toss, and 53 tickets at basketball toss.

TICKET

How can you find the total number of tickets he won?

▶ **One Way** You can group addends in any way and the sum will be the same.

$$27 + 53 + 40$$

$$80 + 40 = 120$$

$$27 + 53 + 40$$

$$27 + 93 = 120$$

▶ **Another Way** You can switch the order of the addends and the sum will be the same.

$$27 + 53 + 40 = 120$$

$$40 + 27 + 53 = 120$$

Billy has 120 tickets.

The properties of addition can help you be more efficient when you add.

Grouping addends or changing the order of the addends can make the problem easier to solve.

Math is... **Structure**

How can grouping the addends help you add more efficiently?

💬 Work Together

Josh is completing the equation $797 + 111 = \underline{\hspace{1cm}} + 797$. Josh adds $797 + 111$ and subtracts 797 to complete the equation. How can Josh complete the equation another way?

Name _____

How can you make the equation true?

1. $218 + 325 = 325 +$ _____

2. $465 +$ _____ $= 78 + 465$

3. $529 + 407 =$ _____ $+ 529$

4. _____ $+ 93 = 93 + 505$

5. Mauricio had a sale. The table shows the number of items he sold each day. Which expressions show how to find the total number of items Mauricio sold? Choose all that apply.

A. $42 + 67 + 58$

B. $67 - 58 + 42$

C. $58 + 42 + 67$

D. $58 + 67 + 24$

Items Sold	
Monday	58
Tuesday	67
Wednesday	42

6. How can you group the addends? Explain why you chose to group them in that way.

$$372 + 264 + 228$$

How can you show one way to group these addends and solve?

7. $157 + 17 + 783$

8. $198 + 502 + 155$

9. $135 + 458 + 42$

10. $235 + 105 + 317$

11. STEM Connection Saffron needs to order the items listed. How can she group these numbers to find her total cost?

flour	$367
boxes	$358
cupcake liners	$142

12. Extend Your Thinking Mrs. Ruiz is checking her receipt. The three items cost $305, $350, and $195. How can she use both properties of addition to add more efficiently?

Reflect

How can changing the order of three addends help you add more efficiently?

Math is... Mindset

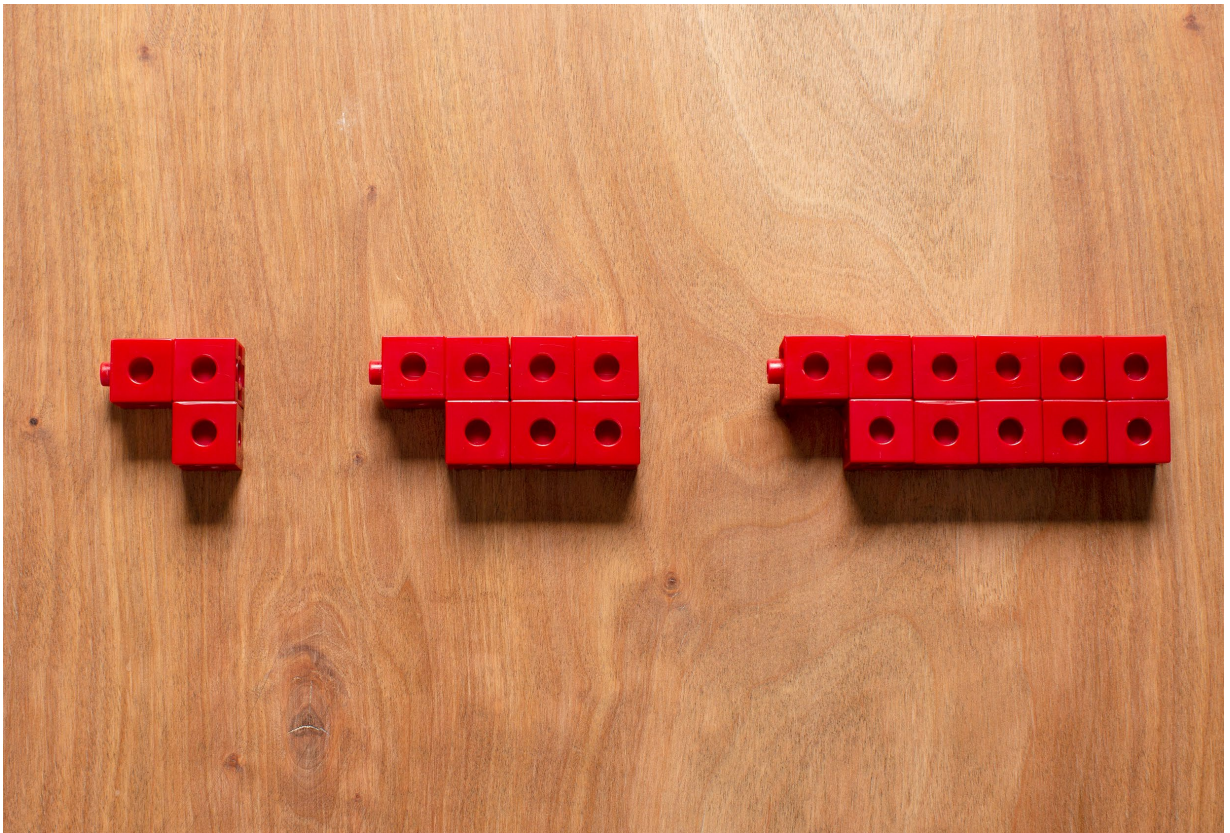How has explaining your thinking helped you learn?

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Addition Patterns

? Be Curious

Is it always true?

Mena states that the total will always be odd if she continues to add 4 blocks to the set.

Math is... **Mindset**

What rules or routines do you follow in math?

Learn

Mena notices that when she adds an even number and an odd number, the sum is odd.

How can she determine if the sum of an even number and an odd number is always odd?

When you add **even numbers** and **odd numbers**, there are patterns in the sums.

When you add two even numbers, the sum is even. $246 + 100 = 346$ $432 + 224 = 656$ $318 + 480 = 798$	When you add two odd numbers, the sum is even. $547 + 155 = 702$ $325 + 631 = 956$ $421 + 273 = 694$

When you add an even number and an odd number, the sum is odd.

$272 + 723 = 995$

$546 + 231 = 777$

$647 + 244 = 891$

> **Math is...** **Generalizations**
>
> Why is it true that the sum of two odd numbers is always even?

You can use addition patterns to help you determine a sum, or to check your work, when you add 3-digit numbers.

💬 Work Together

Nisha writes $135 + 232 = 167$. She says her sum is correct because an odd number added to an even number equals an odd sum. Do you agree with her reasoning? Explain.

On My Own

Name _____

What makes the equation true? Write *even* or *odd*. Then write 2 **equations with 3-digit numbers to support your answer.**

1. _____ = even + even

2. odd + even = _____

3. odd + _____ = even

4. even + odd = _____

5. even + _____ = even

6. _____ = odd + odd

What is the sum? Use patterns to help justify your answer.

7. 486 + 123 = _____

8. 154 + 272 = _____

9. Why is the sum of a number with a 3 in the ones place and a number with a 4 on in the ones place always an odd sum? .

10. How can you explain why the digits in the ones place of the addends determine if the sum will be even or odd?

11. STEM Connection A baking sheet can hold an even or odd number of pastries. If Saffron wants an even number of pastries, how can she arrange the pasteries on 2 sheets?

12. Extend Your Thinking Carol designs scarves. If she uses 112 blue, 113 yellow, and 114 brown stripes on a scarf, will the scarf have an even or odd number of stripes? Explain how you know.

🧭 Reflect

How can addition patterns help you justify that a sum is correct?

Math is... **Mindset**
What rules or routines did you follow in math?

Use Partial Sums to Add

? Be Curious

How are they the same?
How are they different?

Math is... Mindset

What are your strengths in math?

Learn

Maggie and Tanesha break apart the addends by place value to add $367 + 145$. They show their work in different ways.

How can each girl show their work in a different way?

You can **decompose**, or break apart, the addends by place value to find partial sums. Then, add the partial sums to find the sum.

▶ **One Way** You can write the addends in a row.

$$367 + 145 = ?$$
$$300 + 100 = 400$$
$$60 + 40 = 100$$
$$7 + 5 = 12$$
$$400 + 100 + 12 = 512$$

▶ **Another Way** You can stack the addends.

$$367$$
$$+\ \ 145$$

$300 + 100$	400
$60 + 40$	100
$7 + 5$	$+\ \ 12$
	512

partial sums

One addition strategy is to find partial sums and add them to find the sum. You can write the addends in this strategy in different ways.

Math is... **Explaining**

Why is the sum the same when the addends are in a row or stacked?

💬 Work Together

Ari's work is shown. Jun sees Ari's work and says 500 is the sum of $225 + 309$. Do you agree? Explain your reasoning.

$$309$$
$$+\ \ 225$$

$300 + 200$	500
$0 + 20$	100
$9 + 5$	$+\ \ 14$
	614

On My Own

Name _____

How can you decompose each addend? What is the sum?

1. $247 + 564 =$ _____

2. $\begin{array}{r} 815 \\ + 148 \\ \hline \end{array}$

3. $\begin{array}{r} 729 \\ + 148 \\ \hline \end{array}$

4. $327 + 176 =$ _____

5. Whitney uses partial sums to add. Look at her work to determine which two numbers were in her original equation.

_____ + _____ = 598

$200 + 300 = 500$

$10 + 80 = 90$

$6 + 2 = 8$

$500 + 90 + 8 = 598$

6. How can you determine which addends are in the original equation by looking at the partial products?

7. Tyrone spent 172 days in school last year. If he attends school the same number of days next year, how many days will he spend in school in two years?

How can you find the sums in a different way?

8. $475 + 325 = 800$
$$400 + 300 = 700$$
$$70 + 20 = 90$$
$$5 + 5 = 10$$
$$700 + 90 + 10 = 800$$

9.
$$\begin{array}{r} 238 \\ + \ 271 \\ \hline 400 \\ 100 \\ + \quad 9 \\ \hline 509 \end{array}$$

10. Eleanor's watch shows her steps before lunch. She took 486 steps after lunch. How many steps did she take?

11. Error Analysis Amal adds $378 + 141$. She decomposes each number and adds $300 + 100 = 400$. She writes $378 + 141 = 400$. How can you explain her mistake?

12. Extend Your Thinking How can you solve $249 + 401 + 276$ using partial sums? Show your work.

⏲ Reflect

Why is understanding place value important when using the partial sums strategy to add?

Math is... **Mindset**
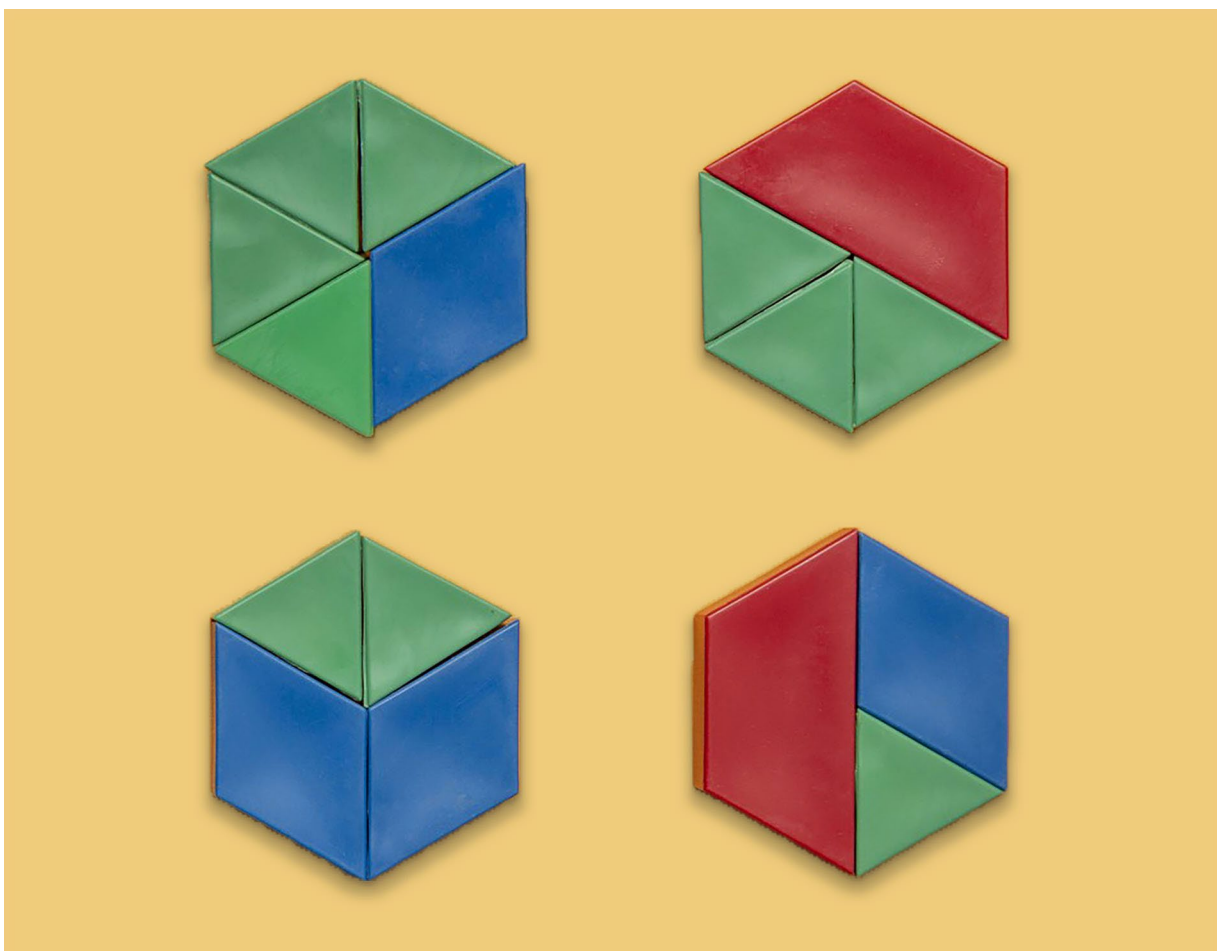
What strengths did you use today? What can you work on?

Decompose to Subtract

? Be Curious

How are they same?
How are they different?

Math is... Mindset

How can flexible thinking help you understand mathematical rules or patterns?

Learn

Samir and Jen subtract 353 — 184. Samir decomposes one number to subtract. Jen decomposes the same number in a different way to subtract.

Will Jen find the same difference as Samir?

▶ **One Way** You can decompose one number by place value.	▶ **Another Way** You can decompose one number in a different way.
$353 - 184 = ?$	$353 - 184 = ?$
$353 - 100 = 253$	$353 - 153 = 200$
$253 - 80 = 173$	$200 - 30 = 170$
$173 - 4 = 169$	$170 - 1 = 169$
$\mathbf{353 - 184 = 169}$	$\mathbf{353 - 184 = 169}$

One subtraction strategy is to decompose one number and then subtract the parts from the total. You can decompose numbers in different ways to subtract.

Math is... **Explaining**

Why is the difference the same when the number is decomposed differently?

💬 Work Together

Hannah subtracts 572 — 378. How can Hannah decompose one number in two different ways to subtract?

On My Own

Name _____

How can you decompose each number in 2 ways?

1. 367

2. 876

How can you decompose one number to subtract? Why did you choose that way?

3. 495 − 122

4. 639 − 370

How can you find the difference? Show the strategy you used.

5. 284 − 182 = _____

6. _____ = 333 − 114

7. 502 − 382 = _____

8. 744 − 466 = _____

9. Error Analysis Juan subtracts 345 − 101. He decomposes 101 into 100 and 10 and subtracts the parts from 345. How can you help him understand his mistake?

10. The table shows the number of people who attended the school fun fair each day. Show a strategy to find the difference between the greatest and least number of people.

Fun Fair Visitors	
Day	**Number of People**
Thursday	103
Friday	168
Saturday	257
Sunday	224

11. A baker bakes 268 bread rolls. 155 are cinnamon rolls. The rest are plain rolls. How many plain rolls does she bake?

12. Extend Your Thinking Ana subtracts 438 − 342 by decomposing 342. She subtracts 2, then 300, and finally 40. Can she subtract the parts in any order? Explain your reasoning.

⏱ Reflect

How do you decide how to decompose one number to subtract?

Math is... **Mindset**

How did flexible thinking help you understand mathematical rules or patterns?

Adjust Numbers to Add or Subtract

Be Curious

Which doesn't belong?

$38 + 19$

$40 + 17$

$37 + 20$

$32 + 25$

Math is... **Mindset**

How can you show others that you value their ideas?

Learn

There are 224 Tigers fans and 212 Hawks fans at the town football game. 109 more Tigers fans arrive late to the game.

How many more Tigers fans than Hawks fans are at the game?

Adjust Addition Equations	**Adjust Subtraction Equations**
$224 + 109 = ?$	$333 - 212 = ?$
$-1 \quad +1$	$-2 \quad -2$
$223 + 110 = 333$	$331 - 210 = 121$
Subtract from one addend and add that amount to the other.	Subtract or add the same amount to both numbers.

You can adjust numbers to numbers that are easier to work with. Adjust both numbers to keep the sum or difference the same as the original.

> **Math is...** **Structure**
>
> How is adjusting a subtraction equation different from adjusting an addition equation?

Work Together

Marco adds $457 + 208$. He adjusts 457 to 460 and 208 to 211. He finds the sum 671. Do you agree with his strategy? Explain.

On My Own

Name _____

How can you adjust the equation to solve?

1. $272 - 99 =$ _____

2. $139 + 216 =$ _____

3. $847 - 332 =$ _____

4. $398 + 147 =$ _____

5. $491 - 226 =$ _____

6. $129 + 139 =$ _____

---

7. Alex adjusted the equation $109 + 119 = ?$ to $110 + 118 = ?$. Describe how he adjusted the equation. Why do you think he did it in that way?

8. Show how you can adjust $396 - 226$. Use a number line to show that the new equation has the same difference.

9. You can adjust 236 − 119 different ways. How can you explain one way you can adjust and why the equation is easier?

10. Melissa and Juan are finding 129 + 257 by adjusting. Melissa tries solving using 130 + 258 = 388 and Juan solves it using 130 + 256 = 386. Which sum is correct? Explain.

11. STEM Connection Saffron completed 851 orders of pastries her first year. After her second year, she completed 926 orders. How can you use adjusting to show how many more pastry orders she completed in her second year than her first year?

12. Extend Your Thinking Yazmin adds 457 + 251. She adjusts 251 to 250, but forgets to adjust 457. She adds 250 + 457 = 707. How can she adjust the sum to fix her mistake? Explain your reasoning.

🔄 Reflect

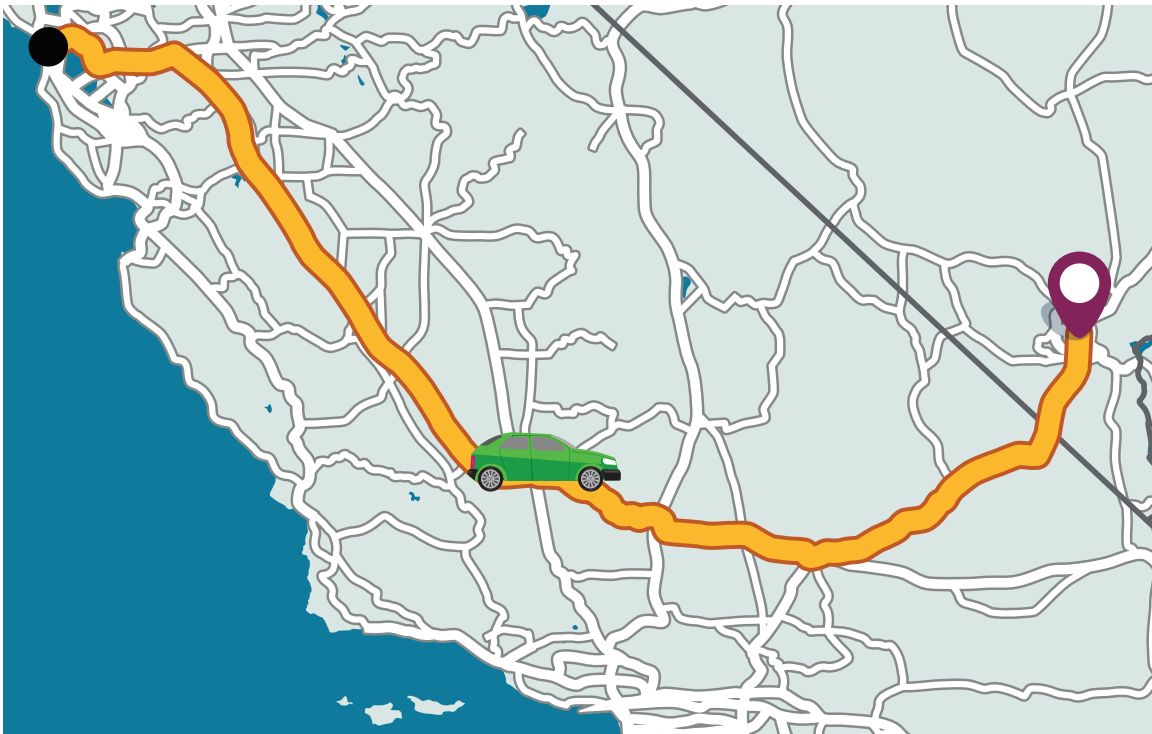How can adjusting just one number affect the addition or subtraction equation?

Math is... Mindset

How have you shown others that you value their ideas?

Be Curious

**What do you notice?
What do you wonder?**

Math is... **Mindset**

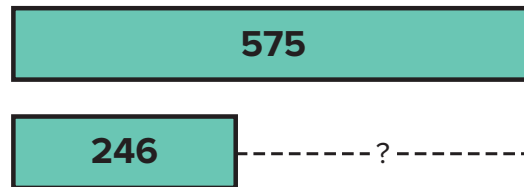How can you show that you understand your partner's ideas?

Learn

Adaline and her family are driving 575 miles to visit her grandmother. They drive 246 miles and stop for lunch.

How can you find how many miles they have left to drive?

You can represent the problem with a **bar diagram**.

575

246	- - - - - ? - - - - -

You can write a subtraction equation with an unknown difference.	You can write an addition equation with an unknown addend.
$575 - 246 = ?$	$246 + ? = 575$
$575 - 246 = \mathbf{329}$	$246 + \mathbf{329} = 575$

Addition and subtraction are related. You can rewrite a subtraction equation as an addition equation with an unknown addend.

> **Math is...** **Choosing Tools**
>
> How can using an unknown addend equation be helpful when you subtract?

🗨 Work Together

Deigo wants to use addition to solve the equation $478 - 326 = ?$. How can you explain this strategy?

On My Own

Name _____

How can you write a related addition equation for the subtraction equation?

1. $635 - 202 = ?$ _____

2. $400 - 151 = ?$ _____

3. $825 - 134 = ?$ _____

4. Error Analysis Jayla knows she can use addition to subtract. She adds $301 + 447$ to find the difference of $447 - 301$. How can you help her understand how to use this strategy?

5. On Monday, 549 people visited the aquarium. On Friday, 823 people visited the aquarium. How many more people visited the aquarium on Friday?

a. How can you fill in the bar diagram to represent the problem?

b. How can you write an equation with an unknown to represent the bar diagram?

How can you use the relationship between addition and subtraction to find the difference?

6. $480 - 318 =$ _____

7. _____ $= 300 - 179$

8. $705 - 239 =$ _____

9. $212 - 135 =$ _____

10. Evan and Kyle put together a 500-piece puzzle. Evan placed 247 pieces. How many pieces did Kyle place?

11. STEM Connection Saffron's Bake Shop can spend $700 to buy a large and a small mixer. She spends $411 on the large mixer. How much does she have left to spend on a small mixer?

12. Extend Your Thinking Kwan says that he can solve $445 - ? = 239$ by using the equation $445 + 239$. Do you agree? Explain why.

🕹 Reflect

How are addition and subtraction related?

Math is... Mindset

How did you show that you understand your classmates' ideas?

Fluently Add within 1,000

? Be Curious

Last year the library's collection of books increased.
This year additional books were added to the library.

Math is... **Mindset**

How can my math skills
help me with my work today?

Learn

Last year the library's collection of books grew from 350 to 722 books. This year 169 books were added to the library.

What strategies can you use to find the total number of books in the library?

Partial Sums You can decompose each addend by place value and add the place values to find partial sums. Then add the partial sums to find the total.

$$722 + 169 = ?$$

$$700 + 100 = 800$$
$$20 + 60 = 80$$
$$2 + 9 = 11$$
$$800 + 80 + 11 = \textbf{891}$$

$$700 + 100$$
$$20 + 60$$
$$2 + 11$$

$$\begin{array}{r} 722 \\ + \ 169 \\ \hline 800 \\ 80 \\ + \quad 11 \\ \hline \textbf{891} \end{array}$$

Adjust Addends You can adjust the addends to numbers that are easier to work with. Subtract from one addend and add that amount to the other addend.

$$722 + 169 = ?$$
$$-1 \qquad +1$$
$$721 + 170 = 891$$

You can use any addition strategy to find the sum. You can decide which addition strategy is most efficient for you.

💬 Work Together

Angel and Daniel find the sum of $348 + 227$. Angel adjusts the addends. Daniel uses partial sums. Can either strategy be used to sovle? Explain your reasoning.

On My Own

Name _____

How can you solve the equation?

1. $437 + 269 =$ _____

2. _____ $= 123 + 443$

3. _____ $= 367 + 512$

4. $791 + 111 =$ _____

5. **Error Analysis** Priya is adding $327 + 478$. Priya adds 3 to 327 to add $330 + 478$. Then she subtracts 3 from the sum. Do you agree with her strategy? Explain.

**6.** Sam adds $249 + 281$ by writing his addends in a row. What is another way Sam can show $249 + 281$?

7. Max's little brother Henry is 2 years old. There are 365 days in a year. How many days old is Henry?

How can you solve the equation? Explain your addition strategy.

8. $458 + 139 =$ _____

9. $719 + 234 =$ _____

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10. Mr. Perez needs 650 sheets of construction paper for his class art project. How many packs of this construction paper should he buy?

Construction Paper
240 Sheets
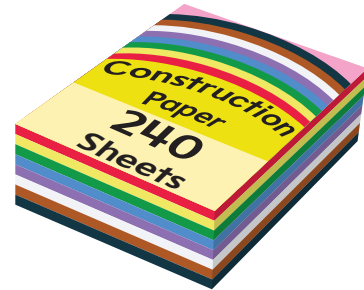
11. Tryon School raised $345 at their school fundraiser and $486 at their bake sale. They used $650 of the money they raised to buy new playground equipment. How much money did Tryon School raise?

12. Extend Your Thinking The community center had 113 swimmers in the fall class and 235 swimmers in the winter class. The summer class had 105 more swimmers than both classes combined. How many swimmers were in the summer class?

🔄 Reflect

How do you decide which addition strategy to use when solving a problem?

Math is... **Mindset**

How did your math skills help you with your work today?

Fluently Subtract within 1,000

Be Curious

Is it always true?

Niko says the only way to subtract 348 — 135 is to decompose 135.

Math is... **Mindset**

What goal do you want to accomplish today?

Learn

Mateo sold 543 tickets to the newest action movie Friday night. He sold 134 fewer tickets on Saturday night than Friday. Then Sunday afternoon he sold 248 tickets.

What strategies can you use to find the number of tickets he sold Saturday?

Decompose One Number

You can decompose one number in different ways and subtract the parts.

$$543 - 100 = 443$$
$$443 - 30 = 413$$
$$413 - 3 = 410$$
$$410 - 1 = 409$$

$$543 - 134 = \textbf{409}$$

Adjust Numbers

You can adjust the numbers to numbers that are easier to work with. Subtract from or add the same amount to both numbers.

$$543 - 134 = ?$$

$+6 \qquad +6$

$$549 - 140 = 409$$

Related Addition Equation

You can write an addition equation with an unknown addend to find the difference.

$$543 - 134 = ? \qquad\qquad 134 + ? = 543$$

$$543 - 134 = \textbf{409} \qquad\qquad 134 + \textbf{409} = 543$$

You can use any subtraction strategy to find the difference. You can decide which subtraction strategy is most efficient for you.

🗨 Work Together

What strategy might be useful to solve $542 - 118$? Explain your reasoning.

On My Own

Name _____

How can you solve each equation?

1. $779 - 363 =$ _____

2. $562 - 295 =$ _____

3. $934 - 874 =$ _____

4. $134 - 68 =$ _____

5. At the airport baggage claim, there are 497 passengers and 632 pieces of luggage. How many more pieces of luggage are there than passengers?

6. Mark and Heidi are asked to solve $171 - 136$. Their work is shown. Which strategy would you choose to solve the problem?
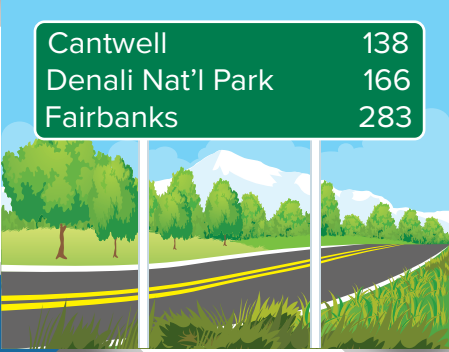
Mark	Heidi
$170 - 135 = ?$	$136 + ? = 171$

7. Cadence earned 299 points in her online game. This was 102 points greater than her last score. Marco earned 414 points. How many more points did Marco earn?

How can you solve the equation? Explain your subtraction strategy.

8. $400 - 349 =$ _____

9. $668 - 218 =$ _____

10. On her family road trip, Zahara sees a road sign showing how many miles they are from different cities. How much further is Fairbanks than Cantwell?

Cantwell	138
Denali Nat'l Park	166
Fairbanks	283

11. Error Analysis Celia says that to subtract $249 - 117$ she can decompose 249 and subtract the parts from 117. Do you agree? Explain your reasoning.

12. Extend Your Thinking While playing his favorite board game, Armando wins $550 in game money. He decides to use $335 to buy game spaces, $122 on a game piece, and the rest he saves. Does Armando save more than $100? Show how you know.

🕑 Reflect

How do you determine if a subtraction strategy is efficient?

Math is... Mindset

How have you worked to accomplish your goal today?

Solve Two-Step Problems Involving Addition and Subtraction

Be Curious

Lea earns points playing her favorite dance video game. She plays the next level and earns more points. Lea needs points to buy a new song for the game.

Math is... **Mindset**

How can you think about a problem in a different way?

Learn

Lea earns 235 points playing her favorite dance video game. She plays the next level and earns 112 more points. Lea needs 475 points to buy a new song for the game.

How many more points does Lea need to buy a new song?

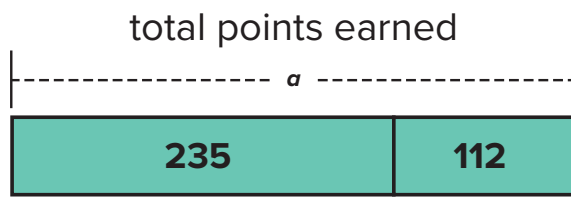You can represent each part of the problem with a bar diagram.

Step 1 Determine how many points Lea has earned.

You can use an addition equation.

$235 + 112 = a$

total points earned

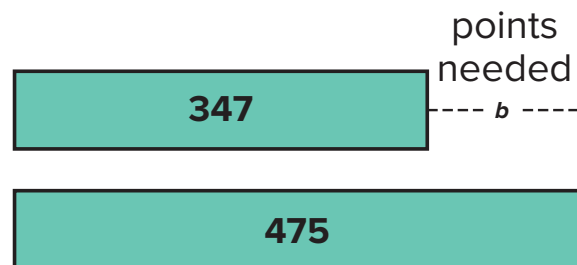| a	
235	**112**

$235 + 112 = \textbf{347}$

Lea has 347 points.

Step 2 Determine how many more points Lea needs.

You can use a subtraction equation.

$475 - 347 = b$

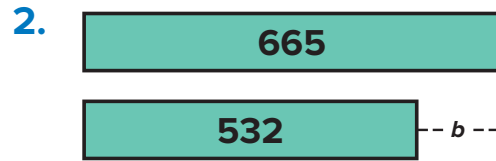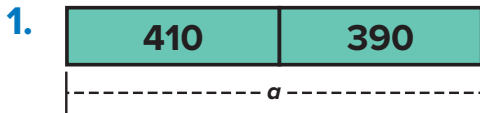> You can use a letter to represent the unknown.

347	points needed b

475

$475 - 347 = \textbf{128}$

Lea needs 128 more points.

Name _____

How can you write an equation to represent the bar diagram?

1.

| 410 | 390 |

|--------- a ---------|

2.

| 665 |

| 532 | -- b --|

_____   _____

How can you draw a bar diagram to represent the equation?

3. $601 - b = 299$

4. $100 + a = 750$

Represent and solve the problem. Use letters for the unknowns.

5. Sam and Ben take turns driving. They traveled 417 miles in May and 454 miles in June. If Sam drove 502 of the miles, how many miles did Ben drive?

6. Jaya earned $187 babysitting. She bought a wireless speaker for $129 and a carrying case for $26. How much money does she have left?

7. Judy has 323 beads. Sarah has 142 more beads than Judy. How many beads do they have together?

How can you solve for the unknown?

8. $m = 456 - 236$

   $m = $ _____

9. $867 = 235 + k$

   _____ $= k$

---

10. **STEM Connection** Saffron keeps track of the pastries she has at her bakery each day. On Monday, she bakes 324 pastries and sells 172 pastries. At the end of the day she has 584 pastries in her bakery. How many pastries did she start the day with?

11. Elroy's Balloon Emporium sells boxes of balloons. There are 100 balloons in a box. In January, they sell 3 boxes. In February, they sell 6 boxes. If they started with 10 boxes, how many balloons do they have left to sell?

12. **Extend Your Thinking** The bar diagram represents a two-step word problem. Write a two-step word problem that could represent the bar diagram.

114	256	103

    |-------------- t --------------|

🔁 Reflect

How can you make sense of a two-step problem?

Math is... Mindset

How have you thought about a problem in a different way?

Unit Review

Vocabulary Review

Choose the correct word to complete each sentence.

> compatible number   decompose
>
> estimate   expanded form
>
> round

1. When you _____ addends, you break them apart to help find the sum. (Lesson 2-6)

2. You can _____ an answer by rounding or using compatible numbers when you do not need an exact answer. (Lesson 2-3)

3. When you _____ a number, you replace the value of the number with one that is close to the original number. (Lesson 2-2)

4. A _____ is a number that is easy to work with. (Lesson 2-3)

5. The representation of a number as a sum of the values of each digit is called _____. (Lesson 2-1)

Review

6. Which of the following is the standard form of the number three thousand, eight hundred forty? (Lesson 2-1)

   A. 384

   B. 3,408

   C. 3,804

   D. 3,840

7. Circle the option that correctly shows rounding to the nearest 10. (Lesson 2-2)

   784 → 785   492 → 500
   563 → 560   535 → 530

Complete the following using properties of addition. (Lesson 2-4)

8. $289 + 621 = 621 +$ _____

9. $78 +$ _____ $+ 212$
   $= 418 + 212 + 78$

10. Sasha spent 284 minutes swimming the first week and 247 minutes the second week. Which of the following is the best estimate for the total time Sasha spent swimming?

(Lesson 2-3)

   A. 500 minutes because rounding each number to the nearest 100 will give you the best estimate.

   B. 520 minutes because rounding each number to the nearest 10 will give you the best estimate.

   C. 530 minutes because rounding each number to the nearest 10 will give you the best estimate.

   D. 600 minutes because rounding each number to the nearest 100 will give you the best estimate.

Identify whether the sum will be even or odd. (Lesson 2-5)

11. The sum of two 3-digit numbers that are both odd will always be _____.

12. The sum of a 3-digit number that is odd and another 3-digit number that is even with always be _____.

13. Decompose the addends to help find the sum. (Lesson 2-6)
   $506 + 472 =$ _____

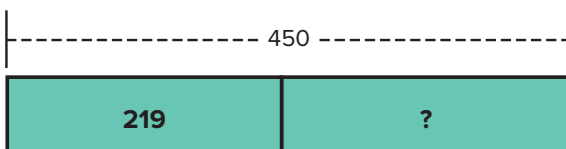**14.** Decompose one number to help find the difference. (Lesson 2-7)

$367 - 228 =$ _____

15. Gabe is trying to solve $246 + 367$. Which equation shows how he could adjust the addends to find the sum? (Lesson 2–8)

A. $250 + 360 = ?$

B. $250 + 370 = ?$

C. $250 + 363 = ?$

D. $250 + 371 = ?$

16. Use the bar diagram to help you find the missing number. (Lesson 2-9)

450

219	?

$219 +$ _____ $= 450$

$450 -$ _____ $= 219$

17. Do you think it makes more sense to decompose both addends or adjust both addends to solve $388 + 472$? Explain. (Lesson 2-10)

18. Which of the following equations can you use to solve this subtraction equation? (Lesson 2-11)

$836 - 377 = ?$

A. $377 + 459 = 836$

B. $459 - 377 = 836$

C. $459 - 836 = 377$

D. $836 + 459 = 377$

19. Enrique read 249 pages of his book in June and 227 pages of his book in July. The book has a total of 638 pages and Enrique wants to know how many more pages he has left to read. (Lesson 2-12)

Which set of equations could be used to solve the word problem?

A. $227 + 249 = 476$
$638 - 227 = 411$

B. $249 + 277 = 476$
$638 - 476 = 162$

C. $638 - 249 = 389$
$389 + 227 = 616$

D. $638 - 227 = 411$
$411 + 249 = 660$

Performance Task

Saffron is helping in a new pastry shop that has been open for two weeks.

Pastry Shop Customers	
Week	**Number of Customers**
1	324
2	289
3	?

Part A How many total customers did the pastry shop have in Weeks 1 and 2?

Part B What is the difference between the number of customers in Weeks 1 and 2?

Part C The pastry shop's goal is to have 800 customers within the first 3 weeks. How many customers must visit in Week 3 for the shop to reach the goal?

Part D If the pastry shop has 847 visitors in the first 3 weeks, which week would have more customers: Week 1 or Week 3? How many more?

🎨 Reflect

How can you use strategies to add and subtract multi-digit numbers?

Unit **2**

Fluency Practice

Name _____

Fluency Strategy

You can make a 10 to add or subtract.

Make a 10 to add 49 + 22.

49 is 1 away from a ten.
Subtract 1 from 22 and add 1 to 49.

$$49 + 22 = ?$$
$$+1 \qquad -1$$
$$50 + 21 = 71$$

Use a 10 to subtract 75 − 43.

43 is 3 away from a ten.
Subtract 3 from 75 and subtract 3 from 40.

$$75 - 43 = ?$$
$$-3 \qquad -3$$
$$72 - 40 = 32$$

Fluency Flash

Look at the number line. Write a matching equation.

1.

$+4$ $+41$

26 30   71

_____

2.

-60 -7

22   82 89

_____
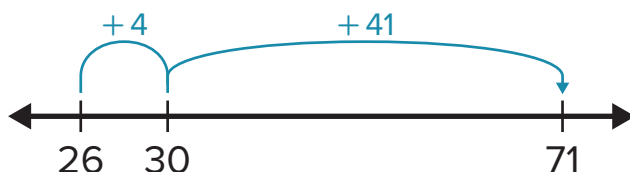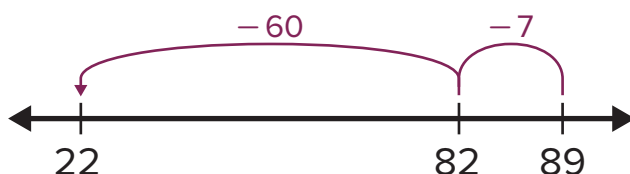
Fluency Check

Add or subtract.

3. $49 + 16 =$ _____

4. $75 + 0 =$ _____

5. $76 - 42 =$ _____

6. $58 + 37 =$ _____

7. $87 - 2 =$ _____

8. $29 - 1 =$ _____

9. $61 + 0 =$ _____

10. $58 + 2 =$ _____

11. $89 - 23 =$ _____

12. $19 + 2 =$ _____

13. $52 - 1 =$ _____

14. $54 - 31 =$ _____

15. $17 + 25 =$ _____

16. $49 + 48 =$ _____

Fluency Talk

Explain to a friend how to make 10 to add $28 + 17$.

How is adjusting to make a 10 different when subtracting than when adding?