Chapter 2 Math Keys

Lesson 1

Name _____

Addition Facts to 18 2.1

part	part	whole
4 horses	3 horses	7 horses
or		
3 horses	4 horses	7 horses

There are 7 horses. The whole is 7. It is the **sum**. The parts are 3 and 4. They are the **addends**. A number sentence written with an equals sign is an equation.

3	+	4	=	7
addend		addend		sum

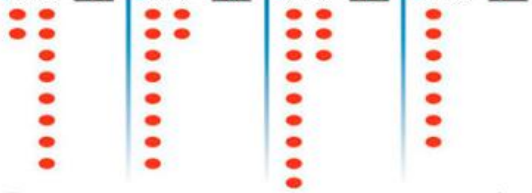
4 addend
+ 3 addend
7 sum

The Order Property of Addition Changing the order of addends does not change the sum.

A fact family is a group of related facts. The two equations above are part of a fact family.

Draw a picture. Write the sum.

1. 2 + 8 = 10
2. 8 + 2 = 10
3. 9 + 3 = 12
4. 7 + 0 = 7



The Zero Property of Addition The sum of 0 and any other number is that number.

How many sheep are there? 4 sheep

If zero more are added, how many sheep will there be? 4 sheep

Write the equation. 4 + 0 = 4

Solve and label using addend and sum.

5. 7 addend + 7 addend = 14 sum
6. 5 addend + 8 addend = 13 sum
7. 9 addend + 9 addend = 18 sum
8. 6 addend + 9 addend = 15 sum

Write each sum.

9. 9 + 8 = 17	10. 4 + 7 = 11	11. 3 + 8 = 11	12. 9 + 5 = 14	13. 8 + 0 = 8	14. 7 + 6 = 13	15. 8 + 8 = 16
16. 9 + 7 = 16	18. 4 + 8 = 12	20. 6 + 5 = 11	22. 5 + 7 = 12			
17. 7 + 9 = 16	19. 8 + 4 = 12	21. 5 + 6 = 11	23. 7 + 5 = 12			

Review

Write > or <.

24. 1,359 < 1,395	26. 13,124 > 8,960	28. 608,741 < 680,043
25. 4,408 > 4,048	27. 7,987 > 6,199	29. 127,643 > 127,495

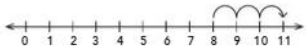
Lesson 2

Name _____

Addition Strategies 2.2

Begin to **count on** with the greater addend. To add 3 + 8, remember that the sum is the same as the sum of 8 + 3.

Start at 8 and count on 3 numbers.
8 + 3 = 11



Circle the greater addend. Count on and write the sum.

1. (8) + 3 = 11	2. 1 + (9) = 10	3. 2 + (7) = 9	4. (12) + 3 = 15	5. (6) + 3 = 9	6. (14) + 1 = 15	7. 2 + (9) = 11

To add 8 + 4, first make a ten. Then, add the extras. 8 + 2 + 2 = 12 (10)

8 + 2 = 10 Add 2 more.

8 + 4 = 12

Make a ten and add. Write the sum.

8. 7 + 8 = 15 (10 + 5) = 15
9. 9 + 6 = 15 (10 + 5) = 15
10. 8 + 9 = 17 (10 + 7) = 17

Two hens each laid 5 eggs. How many eggs did they lay altogether?
5 + 5 = 10 eggs

One of the hens laid an extra egg. Now how many eggs are there?
5 + 6 = 11 eggs

Since 5 + 5 = 10, count on one.
5 + 5 + 1 = 11 eggs

Write a double and then add 1 to find the sum.

11. 3 + 3 = 6	3 + 4 = 7	12. 8 + 8 = 16	8 + 9 = 17	13. 5 + 5 = 10	6 + 5 = 11	14. 4 + 4 = 8	5 + 4 = 9

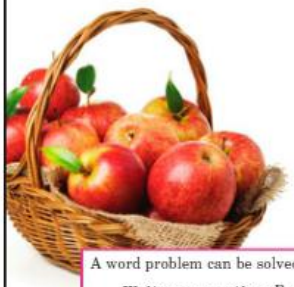
Use an addition strategy and solve.

15. 9 + 5 = 14	20. 7 + 9 = 16
16. 7 + 7 = 14	21. 3 + 9 = 12
17. 8 + 3 = 11	22. 6 + 7 = 13
18. 7 + 8 = 15	23. 8 + 9 = 17
19. 8 + 7 = 15	24. 7 + 6 = 13

Lesson 3

Name _____

Word Problems 2.3



A word problem can be solved several ways.

Write an equation. Rosa's family of 6 are picking apples. Her friend's family of 8 will join them. How many people will pick apples?

6 + 8 = 14

Draw a diagram. Rosa's family picked 7 bushels of apples the first hour and 9 bushels the next hour. How many bushels of apples did they pick?

Make a table. If each of Rosa's family members wears work gloves, how many gloves will they need?

workers	1	2	3	4	5	6
gloves	2	4	6	8	10	12

Circle the strategies that you could use to solve each word problem.

1. Six farm workers gathered by the front gate. They all wore work boots. How many work boots could you count?

equation picture table

2. Nine goats were born on Monday. Five more were born on Tuesday. How many goats were born on these two days?

equation picture table

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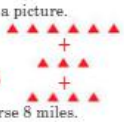
people	1	2	3	4
money	$5	$10	$15	$20

Solve each problem. Label each answer.

3. Ryan's teacher gave each student a bandanna. The class received 6 blue, 3 red, and 4 green bandannas. How many students were there? Draw a picture.



13 students

4. Olivia rode her horse 8 miles. Madison also rode her horse 8 miles. How many miles did the girls ride? Write an equation.

8 + 8 = 16

16 miles

5. Sam drove the tractor to plow 5 rows. Later, he plowed 6 rows. How many rows did Sam plow? Write an equation.

5 + 6 = 11

11 rows

6. At a school fund-raiser, people paid $5 to have a photo taken with newborn lambs. How much money was raised if 4 people had their pictures taken? Make a table.

$20

7. The 9 pinto horses and 8 draft horses will appear in a parade. How many horses will be in the parade? Write an equation.

9 + 8 = 17

17 horses

8. Tori has 7 seed packets. Her brother has 8. How many seed packets in all? Draw a picture.

15 seed packets

Review

Add. Draw a straight line to match each sum to an egg.

Lines may vary.

9.	10.	11.	12.	13.	14.
4 + 9 = 13	8 + 3 = 11	7 + 2 = 9	2 + 9 = 11	6 + 4 = 10	3 + 6 = 9

Lesson 4

Name _____

Problem-Solving Path 2.4

A local farmer sells eggs, fruit, and vegetables. Last week the farmer sold 15 baskets of green peppers. The red peppers were sold on 2 days last week. Seven baskets of them sold on Wednesday and 6 baskets sold on Friday. How many red-pepper baskets were sold last week?

Problem-Solving Path

1. Understand the question.
   - Underline the question.
2. Analyze the data.
   - Circle the key information.
3. Plan the strategy.
   - Write an equation.
   - Draw a picture.
   - Make a table.
4. Solve the problem.
   - Show your work.
   - Label the answer.
5. Evaluate the result.
   - Compare the answer with the estimated answer.
   - Does the answer make sense?

1. Draw a line under the question in the word problem.

2. Circle the key information in the word problem.

3. Plan the strategy you will use to solve the word problem.

Answers will vary.

Estimate the answer.

Estimates will vary.

I estimate ____ red-pepper baskets.

4. Solve and label the answer.

7 + 6 = 13 baskets

5. Compare the answer with the estimated answer. Does the answer make sense? Circle your answer.

Answers will vary.

yes no

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Refer to the Problem-Solving Path. Underline the question. Circle the key information. Draw a picture or write an equation. Label the answer.

6. Shu and Amy picked sweet potatoes. Shu picked 6 baskets and Amy picked 8. How many baskets of sweet potatoes did the girls pick?

8. Roberto and his mom bought peaches. They each picked out 9. How many peaches did they buy?

Drawings and equations will vary.

14 baskets

18 peaches

7. Shu's mother bought 2 baskets of strawberries, 2 baskets of raspberries, 1 basket of beans, and 3 baskets of peas. How many baskets did Shu's mother buy?

9. Roberto's family has 6 people, including Roberto. He bought 2 ears of corn for each person. How many ears of corn did he buy?

8 baskets

12 ears of corn

Review

Round to the nearest ten.

10. 42 40 11. 75 80 12. 29 30 13. 83 80 14. 98 100

Round to the nearest hundred.

15. 566 600 16. 216 200 17. 495 500 18. 722 700

Lesson 5

Name _____

Add 3 Addends 2.5

Group any two addends.
Then, add the third addend.

$\begin{array}{r} 3 \\ 5 \\ +\,7 \\ \hline 15 \end{array}$ 8 $\quad \begin{array}{r} 3 \\ 5 \\ +\,7 \\ \hline 15 \end{array}$ 12 $\quad \begin{array}{r} 3 \\ 5 \\ +\,7 \\ \hline 15 \end{array}$ 10

The sum is still the same!

The Grouping Property of Addition — Changing the grouping of the addends does not change the sum.

Answers will vary.

Circle two addends and write that sum on the side. Add the third addend.

1. $\begin{array}{r} (7) \\ 2 \\ +\,(5) \\ \hline 14 \end{array}$ 12
2. $\begin{array}{r} (6) \\ 2 \\ +\,(3) \\ \hline 11 \end{array}$ 9
3. $\begin{array}{r} (7) \\ (3) \\ +\,5 \\ \hline 15 \end{array}$ 10
4. $\begin{array}{r} (5) \\ 2 \\ +\,(5) \\ \hline 12 \end{array}$ 10

Rewrite these equations to change the grouping. Add.

5. $(2 + 3) + 5 = \underline{10}$; $2 + (3 + 5) = \underline{10}$
6. $(4 + 4) + 7 = \underline{15}$; $4 + (4 + 7) = \underline{15}$
7. $(4 + 2) + 5 = \underline{11}$; $4 + (2 + 5) = \underline{11}$
8. $(2 + 5) + 8 = \underline{15}$; $2 + (5 + 8) = \underline{15}$
9. $3 + (4 + 9) = \underline{16}$; $(3 + 4) + 9 = \underline{16}$
10. $(2 + 6) + 8 = \underline{16}$; $2 + (6 + 8) = \underline{16}$

Add.

11. $\begin{array}{r} 7 \\ 2 \\ +\,3 \\ \hline 12 \end{array}$
12. $\begin{array}{r} 4 \\ 5 \\ +\,3 \\ \hline 12 \end{array}$
13. $\begin{array}{r} 3 \\ 4 \\ +\,5 \\ \hline 12 \end{array}$
14. $\begin{array}{r} 4 \\ 5 \\ +\,4 \\ \hline 13 \end{array}$
15. $\begin{array}{r} 6 \\ 1 \\ +\,7 \\ \hline 14 \end{array}$
16. $\begin{array}{r} 6 \\ 3 \\ +\,3 \\ \hline 12 \end{array}$
17. $\begin{array}{r} 7 \\ 3 \\ +\,6 \\ \hline 16 \end{array}$
18. $\begin{array}{r} 8 \\ 1 \\ +\,3 \\ \hline 12 \end{array}$
19. $\begin{array}{r} 8 \\ 2 \\ +\,5 \\ \hline 15 \end{array}$
20. $\begin{array}{r} 9 \\ 2 \\ +\,3 \\ \hline 14 \end{array}$
21. $\begin{array}{r} 5 \\ 4 \\ +\,6 \\ \hline 15 \end{array}$

Write an equation, solve, and label.

22. Shen noticed the cows had colored tags on their ears. There were 4 yellow tags, 5 red tags, and 4 green tags. How many colored tags were there in all?

$4 + 5 + 4 = 13$

13 tags

23. Shen counted 6 cows with black faces, 4 cows with white faces, and 8 cows with black-and-white faces. How many cows did Shen count?

$6 + 4 + 8 = 18$

18 cows

Review

Add.

24. $\begin{array}{r} 5 \\ +\,5 \\ \hline 10 \end{array}$ $\begin{array}{r} 5 \\ +\,6 \\ \hline 11 \end{array}$
25. $\begin{array}{r} 6 \\ +\,6 \\ \hline 12 \end{array}$ $\begin{array}{r} 6 \\ +\,7 \\ \hline 13 \end{array}$
26. $\begin{array}{r} 7 \\ +\,7 \\ \hline 14 \end{array}$ $\begin{array}{r} 7 \\ +\,8 \\ \hline 15 \end{array}$
27. $\begin{array}{r} 8 \\ +\,8 \\ \hline 16 \end{array}$ $\begin{array}{r} 8 \\ +\,9 \\ \hline 17 \end{array}$

28. $5 + 7 = \underline{12}$
29. $4 + 9 = \underline{13}$
30. $7 + 8 = \underline{15}$
31. $9 + 2 = \underline{11}$
32. $8 + 9 = \underline{17}$
33. $5 + 9 = \underline{14}$

Lesson 6

Name _____

Add Without Regrouping 2.6

One beehive has produced 42 pounds of honey. Another has produced 36 pounds. How much honey have the two hives produced?

Add.

1. $\begin{array}{r} t\ \ o \\ 2\ \ 3 \\ +\ 1\ \ 5 \\ \hline 3\ \ 8 \end{array}$
2. $\begin{array}{r} t\ \ o \\ 8\ \ 1 \\ +\ 1\ \ 6 \\ \hline 9\ \ 7 \end{array}$
3. $\begin{array}{r} t\ \ o \\ 1\ \ 2 \\ +\ 1\ \ 7 \\ \hline 2\ \ 9 \end{array}$
4. $\begin{array}{r} t\ \ o \\ 6\ \ 4 \\ +\ \ \ 5 \\ \hline 6\ \ 9 \end{array}$
5. $\begin{array}{r} t\ \ o \\ 2\ \ 4 \\ +\ 1\ \ 4 \\ \hline 3\ \ 8 \end{array}$
6. $\begin{array}{r} t\ \ o \\ 4\ \ 5 \\ +\ 5\ \ 2 \\ \hline 9\ \ 7 \end{array}$

42
4 tens and 2 ones

+

36
3 tens and 6 ones

=

78
7 tens and 8 ones

They produced 78 pounds of honey.

t	o
4	2
+ 3	6
7	8

Add the ones.
Add the tens.

Circle the ones column to mark your starting point. Add.

7. $\begin{array}{r} 63 \\ +\,21 \\ \hline 84 \end{array}$
8. $\begin{array}{r} 18 \\ +\,61 \\ \hline 79 \end{array}$
9. $\begin{array}{r} 55 \\ +\,32 \\ \hline 87 \end{array}$
10. $\begin{array}{r} 92 \\ +\ \ 7 \\ \hline 99 \end{array}$
11. $\begin{array}{r} 47 \\ +\,51 \\ \hline 98 \end{array}$
12. $\begin{array}{r} 33 \\ +\,34 \\ \hline 67 \end{array}$
13. $\begin{array}{r} 93 \\ +\ \ 6 \\ \hline 99 \end{array}$
14. $\begin{array}{r} 84 \\ +\,14 \\ \hline 98 \end{array}$
15. $\begin{array}{r} 45 \\ +\,52 \\ \hline 97 \end{array}$
16. $\begin{array}{r} 71 \\ +\,26 \\ \hline 97 \end{array}$

17. Add 15 to each of these numbers.

20 35 ; 30 45 ; 40 55 ; 50 65 ; 60 75

Add. Label the answer.

18. The Webbers keep honeybees at their farm. They have just added 42 beehives to the 45 hives they already had. How many hives do the Webbers have now?

$\begin{array}{r} 42 \\ +\,45 \\ \hline 87 \end{array}$ 87 hives

19. On Saturday, Mrs. Webber sold 32 pints of honey at the farmers' market. The next week, she sold the same amount. How much honey did Mrs. Webber sell?

$\begin{array}{r} 32 \\ +\,32 \\ \hline 64 \end{array}$ 64 pints

Review

Write the digit in the ones place.

20. 26 6
21. 34 4

Write the digit in the tens place.

22. 157 5
23. 83 8

Write the digit in the hundreds place.

24. 521 5
25. 4,928 9

Write the digit in the thousands place.

26. 13,289 3
27. 2,814 2

Lesson 7

Name _____

Regrouping Ones 2.7

On Monday, the Riveras family sheared 48 of their sheep. On Tuesday, they sheared another 47 sheep. How many did they shear in all?

48 (4 tens and 8 ones) + 47 (4 tens and 7 ones) = 95 sheep (9 tens and 5 ones)

Regroup 10 ones as 1 ten. → 9 tens and 5 ones

	1	
	t	o
	4	8
+	4	7
	9	5

Add the ones. 15 ones
Write **5** in the ones column.
Write **1** above the tens column.
Add the tens. 9 tens

When the sum of a column is 10 or more, trade or regroup.

Add.

1.

	1	
	t	o
	4	6
+	2	5
	7	1

2.

	1	
	t	o
	4	9
+	3	4
	8	3

3.

	1	
	t	o
	4	2
+	1	8
	6	0

4.

	1	
	t	o
	2	8
+	6	4
	9	2

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Circle the ones column. Add. Check regrouping.

5. 39 + 56 = 95	7. 24 + 26 = 50	9. 19 + 38 = 57	11. 27 + 37 = 64	13. 79 + 16 = 95	15. 52 + 29 = 81
6. 46 + 25 = 71	8. 28 + 37 = 65	10. 42 + 38 = 80	12. 34 + 56 = 90	14. 68 + 14 = 82	16. 27 + 33 = 60

Solve and label each answer.

17. The ram's wool weighed 23 pounds. The ewe's wool weighed 18 pounds. How many pounds of wool did both sheep produce?

23 + 18 = 41 pounds

18. How many pounds of wool would 2 ewes produce?

18 + 18 = 36 pounds

Add. Write each problem's letter in the box that matches the sum.

19.

29 + 53 = 82 E	47 + 14 = 61 W	28 + 15 = 43 S	57 + 23 = 80 O	19 + 19 = 38 G	45 + 17 = 62 B
43 + 39 = 82 E	51 + 39 = 90 L	49 + 11 = 60 D	18 + 25 = 43 S	36 + 46 = 82 E	

G	O	D	B	L	E	S	S	E	W	E
38	80	60	62	90	82	43	43	82	61	82

Lesson 8

Name _____

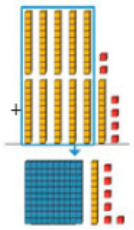
Regrouping Tens 2.8

Farmer Medina's red hens produced 52 eggs last summer. His white hens laid 64 eggs during the same period. How many eggs were produced in all?

Last year, Farmer Medina sold 162 brown eggs and 174 white eggs to the local market. How many eggs did he sell?

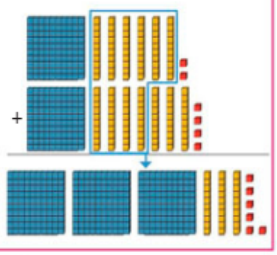
1
52
+64
116 eggs

Add the ones.
Add the tens.
Regroup tens as hundreds.



1
162
+174
336 eggs

Add the ones. Add the tens.
Regroup tens as hundreds.
Add the hundreds.



Add. Regroup the tens.

1. 64 + 53 = 117
2. 349 + 480 = 829
3. 187 + 452 = 639
4. 98 + 31 = 129

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Add. Regroup the tens. Check regrouping.

5. 57 + 51 = 108	6. 63 + 54 = 117	7. 81 + 37 = 118	8. 56 + 70 = 126	9. 35 + 82 = 117	10. 73 + 62 = 135

Add. Regroup the tens.

11. 267 + 362 = 629	12. 142 + 575 = 717	13. 573 + 286 = 859	14. 339 + 380 = 719	15. 425 + 191 = 616	16. 756 + 182 = 938

Add. Regroup as needed.

17. 63 + 55 = 118	20. 48 + 61 = 109	23. 681 + 243 = 924	26. 26 + 83 = 109	29. 452 + 263 = 715	32. 43 + 16 = 59
18. 394 + 112 = 506	21. 283 + 426 = 709	24. 86 + 82 = 168	27. 75 + 52 = 127	30. 636 + 82 = 718	33. 83 + 64 = 147
19. 45 + 91 = 136	22. 372 + 261 = 633	25. 483 + 356 = 839	28. 124 + 194 = 318	31. 292 + 253 = 545	34. 553 + 294 = 847

Solve. Show your work and label your answer.

35. Farmer Medina sold 53 eggs at a roadside stand. He sold twice as many to the market. How many eggs did he sell to the market?

53 + 53 = 106 eggs

Review

Round to the nearest ten.

36. 64 → 60; 27 → 30; 33 → 30; 55 → 60; 89 → 90

Round to the nearest hundred.

37. 631 → 600; 487 → 500; 708 → 700; 921 → 900

Lesson 9

Name _____

Practice: Regrouping 2.9

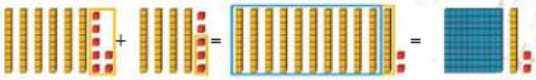
Celia's family sells piglets. Her family sold 67 piglets last week and 45 this week. How many piglets were sold?

1
67
+45
2

Add the ones. 12 ones
Write **2** in the ones column.
Write **1** above the tens column.

11
67
+45
112

Add the tens. 11 tens
Write **1** in the tens column.
Write **1** above the hundreds column.



67 + 45 = 112 piglets

6 tens and 7 ones + 4 tens and 5 ones = 1 hundred, 1 ten, 2 ones

Add. Fill in the circles to show where you had to regroup. Check regrouping.

1.	2.	3.	4.	5.
1 36 +25 61	49 +50 99	246 +391 637	385 +465 850	253 +168 421
● ones ○ tens ○ neither	○ ones ○ tens ● neither	○ ones ● tens ○ neither	● ones ● tens ○ neither	● ones ● tens ○ neither

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Add. Regroup the ones and tens as needed. Check regrouping.

6.	9.	12.	15.	18.	21.
1 74 +69 143	59 +48 107	87 +33 120	72 +98 170	86 +35 121	94 +96 190
7.	**10.**	**13.**	**16.**	**19.**	**22.**
77 +46 123	29 +73 102	56 +46 102	83 +79 162	39 +87 126	63 +67 130
8.	**11.**	**14.**	**17.**	**20.**	**23.**
156 +488 644	694 +228 922	378 +475 853	249 +375 624	756 +176 932	614 +189 803

Add. Regroup as needed.

24.	26.	28.	30.	32.	34.
78 +23 101	70 +37 107	39 +63 102	55 +82 137	11 +48 59	727 +194 921
25.	**27.**	**29.**	**31.**	**33.**	**35.**
138 +630 768	472 +138 610	147 +359 506	75 +60 135	23 +94 117	128 +109 237

Solve. Label your answer.

36. Celia's piglet is 1 month old and weighs 11 pounds. When it turns 6 weeks old, it will double its current weight. How much will the piglet weigh at 6 weeks?

22 pounds

37. These two piglets weigh 25 and 35 pounds. What is their combined weight?

60 pounds

Lesson 10

Name _____

4-Digit Numbers 2.10

Bessie weighs 2,465 pounds.
She produces 2,090 gallons of milk each year.

Bea weighs 1,876 pounds.
She produces 988 gallons of milk each year.

What do the two cows weigh altogether?
How much milk do the cows produce in a year?

1 1 1
2,465
+1,876
4,341 pounds

- Add the ones and regroup if needed.
- Add the tens and regroup if needed.
- Add the hundreds and regroup if needed.
- Add the thousands.

+				
	2,	0	9	0
		9	8	8
	3,	0	7	8

gallons per year

When adding a four-digit numeral to a two- or three-digit numeral, you must align the digits carefully!

Add. Check regrouping.

1.	2.	3.	4.
1 1 1 6,583 +1,619 8,202	4,075 +3,398 7,473	5,594 +2,759 8,353	3,284 +4,876 8,160

Rewrite each problem. Add.

5. 7,089 + 650

	7,	0	8	9
+		6	5	0
	7,	7	3	9

6. 8,026 + 92

	8,	0	2	6
+			9	2
	8,	1	1	8

7. 5,673 + 253

	5,	6	7	3
+		2	5	3
	5,	9	2	6

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Add. Check regrouping.

8.	12.	16.	20.	24.
1 1 2,778 +3,041 5,819	4,395 +4,243 8,638	7,281 +1,464 8,745	1,433 +3,379 4,812	3,596 +6,278 9,874
9.	**13.**	**17.**	**21.**	**25.**
5,362 +3,879 9,241	8,081 +1,589 9,670	2,988 +2,346 5,334	4,681 +3,499 8,180	7,165 +1,978 9,143
10.	**14.**	**18.**	**22.**	**26.**
1,824 + 193 2,017	2,660 + 89 2,749	3,725 + 83 3,808	5,691 + 155 5,846	8,952 + 83 9,035
11.	**15.**	**19.**	**23.**	**27.**
2,677 + 192 2,869	888 + 21 909	679 + 83 762	491 +348 839	6,791 +2,157 8,948

Solve. Show your work. Label your answer.

28. Andrew counted 1,563 Holstein cows. He counted 44 Guernsey cows. How many cows did Andrew count?

1,563
+ 44
1,607

1,607 cows

Review

29. Subtract.

15 − 6 9	17 − 8 9	10 − 4 6	16 − 8 8	14 − 7 7	12 − 9 3	18 − 9 9	9 − 3 6
11 − 5 6	8 − 6 2	15 − 7 8	17 − 9 8	10 − 6 4	16 − 7 9	14 − 5 9	13 − 6 7

Lesson 11

Name _____

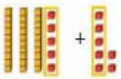
Mental Addition 2.11

The Graf family owns a goat dairy. The dairy has 35 adult goats and 7 kids. How many goats are there in all?

To add a one-digit number to a two-digit number, you must first know the basic addition fact for the ones. If the sum is 10 or more, add 1 to the tens.

Can you use mental addition to find the total number of goats?

35
+ 7



Add the ones in your mind.
5 + 7 = 12

12 = 1 ten, 2 ones
The sum will have 2 ones.
Add 1 to the tens.

35 + 7 = 42 goats

Write the addition fact that will help you solve the problem. Add.

Check regrouping.

1. 76 + 8 = 84	6 + 8 = 14	3. 18 + 5 = 23	8 + 5 = 13	5. 84 + 9 = 93	4 + 9 = 13	7. 26 + 5 = 31	6 + 5 = 11
2. 35 + 9 = 44	5 + 9 = 14	4. 66 + 7 = 73	6 + 7 = 13	6. 43 + 8 = 51	3 + 8 = 11	8. 52 + 9 = 61	2 + 9 = 11

9. Will the sum of 29 + 8 be a number in the twenties or in the thirties? Explain your answer.

Answers will vary but should include that 29 is close to 30 so the answer will be in the thirties.

Use mental addition to find each sum.

Check regrouping.

10. 78 + 7 = 85	12. 35 + 5 = 40	14. 40 + 8 = 48	16. 63 + 6 = 69	18. 59 + 9 = 68	20. 17 + 7 = 24
11. 37 + 5 = 42	13. 25 + 8 = 33	15. 47 + 6 = 53	17. 65 + 9 = 74	19. 79 + 3 = 82	21. 86 + 6 = 92

22. 18 + 2 = 20	25. 28 + 9 = 37	28. 73 + 9 = 82
23. 67 + 5 = 72	26. 48 + 8 = 56	29. 55 + 8 = 63
24. 45 + 7 = 52	27. 85 + 3 = 88	30. 36 + 6 = 42

Use mental addition to solve each word problem. Label the answers.

31. A goat has 24 molars and 8 sharp teeth. How many teeth does a goat have?

32 teeth

32. The Grafs' goats produced 64 quarts of milk today. There are 53 quart bottles inside the milk house and 8 more in a box outside. Are there enough bottles to hold all of today's milk?

No, there are only 61 bottles.

33. Abbie helps her parents milk the goats. Today, Abbie milked 4 goats. Her dad milked 27 goats. How many goats did they milk in all?

31 goats

Lesson 12

Name _____

Estimate Sums 2.12

Many Native Americans used deer hide for clothing and shelter. They used antlers for tools and weapons. Deer meat, or venison, was a regular part of their diet.

One member of the Ojibwe tribe collected 16 hides. His brother collected 27. About how many hides did the men have?

16 + 27 ⟶ 20 + 30 = 50 hides

To estimate is to figure a close answer. You can estimate the sum by rounding each addend to the nearest ten. Then, add the rounded numbers.

516 + 283 ⟶ 500 + 300 = 800

You can also use estimation to check your addition.
- You can estimate the sum by rounding each addend to the nearest hundred.
- Add to find the estimated sum.
- If you added correctly, the exact sum should be close to the estimate.

The exact sum is 799. It is very close to the estimate.

Check regrouping.

Round the addends to the nearest ten. Estimate the sum. Solve.

1. 39 + 47 = 86	40 + 50 = 90	2. 89 + 26 = 115	90 + 30 = 120	3. 64 + 92 = 156	60 + 90 = 150

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Check regrouping.

Round the addends to the nearest hundred. Estimate the sum. Solve.

4. 942 + 589 = 1,531	900 + 600 = 1,500	6. 129 + 284 = 413	100 + 300 = 400	8. 342 + 438 = 780	300 + 400 = 700
5. 711 + 583 = 1,294	700 + 600 = 1,300	7. 140 + 321 = 461	100 + 300 = 400	9. 678 + 204 = 882	700 + 200 = 900

Number Bank
400
800
500
900
600
700

Choose an estimated sum from the Number Bank to match each addition problem.

10. 368 + 220 = 600	12. 185 + 214 = 400	14. 408 + 88 = 500
11. 803 + 98 = 900	13. 387 + 273 = 700	15. 481 + 312 = 800

Round to estimate.

16. Doli's mother is teaching her to spin yarn from wool for weaving. Doli's mother has woven 38 blankets and 42 rugs. Estimate the number of woven items she has made.

80 woven items

Review

Write the next three numerals in each pattern.

17. 25 35 45 55 65 75
18. 118 128 138 148 158 168
19. 497 498 499 500 501 502
20. 235 335 435 535 635 735

Lesson 13

Name _____

Column Addition 2.13

Jeremy's family raises rabbits. The family has 16 white rabbits, 22 gray rabbits, and 14 black rabbits. How many rabbits are there in all?

16
22
+14

Column addition is used for adding addends vertically. You can use mental math to add columns.

- Add mentally to **make a ten**.
- Add mentally using another strategy, such as **doubles**.

1
16
22
+14
52 rabbits

6 + 4 = 10
10 + 2 = 12

In this problem, you can make a 10 in the ones column.

Sometimes you can also make a 10 in the tens or hundreds columns.

2
59
68
+37
164

9 + 8 = 17
17 + 7 = 24

In this problem, use a doubles fact to add the ones column.

Other strategies include **doubles plus one** and **counting on**.

Check regrouping.

Check the box that shows the strategy you would use to add the ones column. Add.

1. 1 84 + 69 + 56 = 209 ☑ make a 10 ☐ use another strategy
2. 16 + 25 + 18 = 59 ☐ make a 10 ☑ use another strategy
3. 26 + 32 + 88 = 146 ☑ make a 10 ☐ use another strategy
4. 49 + 69 + 78 = 196 ☐ make a 10 ☑ use another strategy

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Add. Check regrouping.

5. 1 18 + 64 + 52 = 134	7. 97 + 22 + 59 = 178	9. 88 + 75 + 43 = 206	11. 362 + 428 + 195 = 985	13. 208 + 459 + 512 = 1,179	15. 621 + 283 + 207 = 1,111
6. 403 + 711 + 336 = 1,450	8. 612 + 805 + 303 = 1,720	10. 105 + 275 + 688 = 1,068	12. 803 + 214 + 52 = 1,069	14. 213 + 537 + 628 = 1,378	16. 729 + 306 + 511 = 1,546

Solve. Show your work and label your answers.

17. Jeremy has 57 pictures of Dutch rabbits, 16 pictures of Angora rabbits, and 13 pictures of wild rabbits in his scrapbook. What is the total number of rabbit pictures?

86 rabbit pictures

18. Jeremy did research online to find the number of kits, or baby rabbits, in each litter. He discovered that a mother rabbit can have 14 kits in one litter! If a mother rabbit has 3 litters, how many kits would she have in all?

42 kits

19. The rabbits that Jeremy raises are sold to pet shops. Last year, Jeremy sold 43 rabbits to Friendly Pets, 21 rabbits to Happy Pet Shop, and 18 rabbits to Gentle Pets. How many rabbits did Jeremy sell last year?

82 rabbits

Lesson 14

Name _____

Graph: Pictograph 2.14

A pictograph is a graph that uses pictures or symbols to stand for a number of real objects.

Each pictograph has a title that tells what the graph represents. Labels are organized on one side of the graph. A key tells how many real objects are represented by each picture or symbol.

Animals Counted at Matsui's Farm in July

pigs	1
goats	2
rabbits	5
cows	3
chickens	4

key = 2 animals

Read the pictograph above. Answer the questions.

1. Where were the animals counted? at Matsui's Farm
2. When were the animals counted? in July
3. How many cows were counted? 6
4. How many chickens? 8 How many goats? 4
5. How many more chickens were counted than cows? 2
6. How many animals were counted altogether? 30

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Many American Indian tribes live in the Southwest. Read the pictograph. Answer the questions.

Performers in a Regional Powwow

Hopi	4
Navajo	3
Apache	3
Taos	1

key = 4 performers

7. How many of the Hopi tribe performed at the powwow? 16
8. Which tribes had exactly 12 performers? Navajo and Apache
9. Which tribe had more performers than the Apaches? Hopi
10. Which tribe had the fewest performers? Taos

11. Use the information from the tally chart to design a pictograph.

Performers	
boys	𝍸
girls	𝍸 |

Answers will vary.

Answers will vary.

key = Answers will vary.

Lesson 15

Name _____

Chapter 2 Review 2.15

Write the letter of the correct word or property.

1. d a number sentence with an equals sign
2. f Changing the grouping of the addends does not change the sum.
3. c a graph that uses pictures or symbols
4. a to figure a close answer
5. b related addition and subtraction facts
6. e The sum of zero and any number is that number.

a. estimate

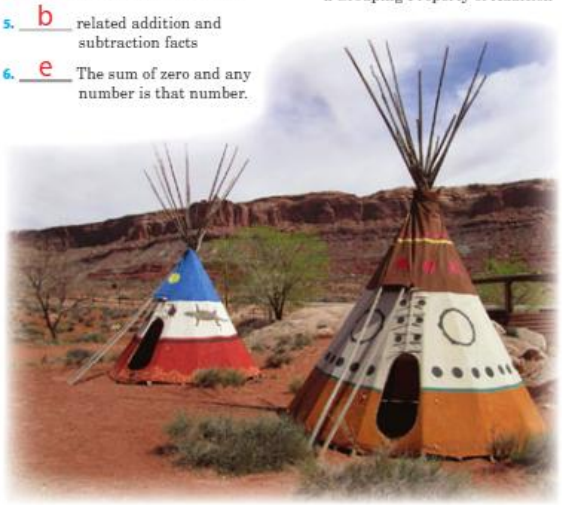
b. fact family

c. pictograph

d. equation

e. Zero Property of Addition

f. Grouping Property of Addition



Add mentally. Write the sum.

Check regrouping.

7.	8.	9.	10.	11.	12.
$\overset{1}{7}5 + 8 = 83$	$89 + 6 = 95$	$34 + 8 = 42$	$45 + 6 = 51$	$88 + 8 = 96$	$97 + 9 = 106$

Round to the nearest ten or hundred. Estimate the sum.

13.	14.	15.
$23 + 67$: 20 + 70 = 90	$491 + 624$: 500 + 600 = 1,100	$345 + 178$: 300 + 200 = 500

Use column addition to find the sum.

16.	17.	18.	19.
$38 + 51 + 72 = 161$	$96 + 12 + 74 = 182$	$24 + 78 + 45 = 147$	$39 + 68 + 37 = 144$

Add.

20.	21.	22.	23.	24.
$480 + 185 = 665$	$217 + 636 = 853$	$364 + 259 = 623$	$2{,}698 + 6{,}051 = 8{,}749$	$5{,}249 + 893 = 6{,}142$

Use the Problem-Solving Path to solve. Label the answer.

25. Rew and his dad are flying a UAV (unmanned aerial vehicle) over their farm. Its camera recorded 16 cows, 22 calves, and 18 horses. How many animals were there altogether?

56 animals