

MY Homework**Lesson 1****Addition Properties****Homework Helper**Need help? connectED.mcgraw-hill.com

Jaycee bought 3 yellow apples and 4 green apples.
Marshall bought 4 yellow apples and 3 green apples.
How many apples did each person buy?

$3 + 4 = 7$

$4 + 3 = 7$

Commutative
Property of Addition

They each bought 7 apples. The order in which the addends are added does not change the sum.

You learned two other addition properties.

The Identity Property shows the sum of any number and zero is the number.

$7 + 0 = 7$

The Associative Property shows the way the addends are grouped does not change the sum.

$$\begin{aligned}(7 + 4) + 3 &= 7 + (4 + 3) \\ &= 7 + 7 \\ &= 14\end{aligned}$$

Practice

Draw lines to match each property of addition with its correct example.

1. $3 + 4 = 7$ $4 + 3 = 7$

• Commutative Property of Addition

2. $7 + 0 = 7$

• Associative Property of Addition

3. $7 + (3 + 4) = (7 + 3) + 4$

• Identity Property of Addition

Find each sum. Identify the addition property.

4. $46 + 0 =$ _____

_____ Property

5. $(7 + 9) + 3 =$ _____ $7 + (9 + 3) =$ _____

_____ Property

Find each sum mentally.

6. $(6 + 8) + 2 =$ _____

7. $3 + (2 + 4) =$ _____



Problem Solving

Mathematical

8. **PRACTICE 1** **Make Sense of Problems** Pedro and Jamal collected yellow and red leaves. They each collected the same total number of leaves. How many red leaves did Jamal collect?



Pedro's leaves



Jamal's leaves

Vocabulary Check



Draw a line to match the vocabulary word(s) to its example.

- | | |
|--------------------------|---------------------------------------|
| 9. Commutative Property | • symbols which show grouping |
| 10. parentheses | • $(3 + 1) + 4 = 8$ $3 + (1 + 4) = 8$ |
| 11. Identity Property | • $5 + 6 = 11$ $6 + 5 = 11$ |
| 12. Associative Property | • $2 + 0 = 2$ |

Test Practice

13. Which number sentence is an example of the Associative Property?
- (A) $5 + 1 = 3 + 3$ (C) $(8 + 2) + 5 = 8 + (2 + 5)$
- (B) $583 + 0 = 583$ (D) $3 + 5 = 5 + 3$

Name

MY Homework

Lesson 2

Patterns in the Addition Table

Homework Helper



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Eddie colored the top row of an addition table blue. What is the pattern?

The sum of any number and zero is the number. This shows the Identity Property of Addition.

Using **green**, Eddie started at 2 and colored a downward diagonal pattern. What is the pattern?

Adding 2 to an even number shows a pattern of even numbers.

Using **purple**, Eddie started at 5 and colored a downward diagonal. What is the pattern?

Adding 2 to an odd number shows a pattern of odd numbers.

+	0	1	2	3	4	5	6	7	8	9	10
0	0	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10	11
2	2	3	4	5	6	7	8	9	10	11	12
3	3	4	5	6	7	8	9	10	11	12	13
4	4	5	6	7	8	9	10	11	12	13	14
5	5	6	7	8	9	10	11	12	13	14	15
6	6	7	8	9	10	11	12	13	14	15	16
7	7	8	9	10	11	12	13	14	15	16	17
8	8	9	10	11	12	13	14	15	16	17	18
9	9	10	11	12	13	14	15	16	17	18	19
10	10	11	12	13	14	15	16	17	18	19	20

Practice

Use the addition table above.

1. Shade a diagonal of odd numbers **red**.
2. Shade a diagonal of even numbers **yellow**.

Use the addition table.

3. Circle two squares that each represent a sum of 3 and 4. This shows the Commutative Property of Addition.

$3 + 4 = \underline{\quad}$ and $4 + 3 = \underline{\quad}$

4. Circle the two addends which make a sum of the shaded 12. Write the number sentence.

5. Shade a diagonal of numbers **green** that show the sums equal to 9.
6. Shade a row of numbers **yellow** that represents sums with one addend of 10.

+	0	1	2	3	4	5	6	7	8	9	10
0	0	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10	11
2	2	3	4	5	6	7	8	9	10	11	12
3	3	4	5	6	7	8	9	10	11	12	13
4	4	5	6	7	8	9	10	11	12	13	14
5	5	6	7	8	9	10	11	12	13	14	15
6	6	7	8	9	10	11	12	13	14	15	16
7	7	8	9	10	11	12	13	14	15	16	17
8	8	9	10	11	12	13	14	15	16	17	18
9	9	10	11	12	13	14	15	16	17	18	19
10	10	11	12	13	14	15	16	17	18	19	20



Problem Solving

7. **Mathematical PRACTICE** **E** **Justify Conclusions** Jasmine had 11 friends over at her house. Every time the doorbell rang, 2 more friends arrived. The doorbell rang 3 times. How many friends did Jasmine have over altogether?

8. Steve colors the following sums on an addition table. If he continues the pattern, will the numbers continue to be even? Explain.

12, 14, 16, 18

Test Practice

9. Danielle is saving for a bicycle. Her last 4 bank deposits are shown in the table. If the pattern continues, how much will her next bank deposit be?

Bank Deposits
\$9
\$11
\$13
\$15
?

- (A) \$2 (B) \$16 (C) \$17 (D) \$19

Name

MY Homework

Lesson 3

Addition Patterns

Homework Helper



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Over several years, Mrs. Bowers' students made a total of 2,367 paper cranes. This year, she challenged her students to make the new total 2,467 paper cranes. How many paper cranes do they need to make this year to meet the challenge?

Use a place-value chart to find which place changed in value.

The new number is 100 more.

$$2,367 + 100 = 2,467$$

So, this year's class needs to make 100 paper cranes.

thousands	hundreds	tens	ones
2	3	6	7
2	4	6	7

Practice

Write the number in the place-value chart.

1. 10 more than 567

hundreds	tens	ones
5	6	7

2. 1 more than 358

hundreds	tens	ones
3	5	8

3. 1,000 more than 1,529

thousands	hundreds	tens	ones
1	5	2	9

4. 100 more than 5,834

thousands	hundreds	tens	ones
5	8	3	4

Complete the number sentence.

5.

thousands	hundreds	tens	ones
1	2	7	1
2	2	7	1

$1,271 + \underline{\hspace{2cm}} = 2,271$

6.

thousands	hundreds	tens	ones
4	2	4	4
4	3	4	4

$4,244 + \underline{\hspace{2cm}} = 4,344$

Write the number.

7. 10 more than 1,465 8. 100 more than 8,699 9. 1,000 more than 3,007

Identify and complete the number pattern.

10. 2,378; 2,478; 2,578; _____; 2,778; 2,878

The number pattern is _____.

11. 5,903; 5,913; 5,923; _____; 5,943; 5,953

The number pattern is _____.



Problem Solving



12. **PRACTICE** **Model Math** A baby horse weighed 104 pounds at birth. In one month, it gained 100 pounds. How much does the horse weigh now? Complete the number sentence to show the change.

$104 + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

Test Practice

13. Which pattern shows 100 more?

- (A) 1,456; 1,556; 1,656; 1,756 (C) 5,832; 5,833; 5,834; 5,835
 (B) 4,987; 4,887; 4,787; 4,687 (D) 6,001; 7,001; 8,001; 9,001

MY Homework

Lesson 4

Add Mentally

Homework Helper



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There are 58 passengers on a subway train. At the next stop, 33 more passengers board the train. How many passengers are there altogether?

You can add mentally.

Make one addend a ten such as 10, 20, 30, and so on.

$$\begin{array}{r}
 58 + 2 \leftarrow \text{Give, or add, 2 to the first addend.} \rightarrow 60 \\
 + 33 - 2 \leftarrow \text{Take, or subtract, 2 from the second addend.} \rightarrow + 31 \\
 \hline
 91
 \end{array}$$

Helpful Hint

60 and 31 are easier numbers to add.

So, $60 + 31 = 91$. There are 91 passengers.

Practice

Break apart the addends to add mentally.

$$\begin{array}{r}
 1. \quad 41 = 40 + \boxed{} \\
 + 26 = \boxed{} + 6 \\
 \hline
 \boxed{} = 60 + 7
 \end{array}$$

$$\begin{array}{r}
 2. \quad 328 = \boxed{} + 20 + 8 \\
 + 254 = 200 + \boxed{} + \boxed{} \\
 \hline
 \boxed{} = \boxed{} + \boxed{} + 12
 \end{array}$$

Make a ten or a hundred to add mentally.

$$\begin{array}{r}
 3. \quad 76 + 7 \\
 \quad -3 \quad +3 \\
 \hline
 \boxed{} + \boxed{} = \boxed{}
 \end{array}$$

$$\begin{array}{r}
 4. \quad 598 + 256 \\
 \quad +2 \quad -2 \\
 \hline
 \boxed{} + \boxed{} = \boxed{}
 \end{array}$$

Make a ten or a hundred to add mentally.

5. $339 + 123$

$$\begin{array}{r} \square \\ 339 \\ \hline \square + \square = \square \end{array}$$

6. $399 + 428$

$$\begin{array}{r} \square \\ 399 \\ \hline \square + \square = \square \end{array}$$

Break apart the addends to add mentally.

7. $767 = \square + \square + \square$
 $+ 29 = \square + \square$

$$\square = \square + \square + \square$$

8. $214 = \square + \square + \square$
 $+ 127 = \square + \square + \square$

$$\square = \square + \square + \square$$



Problem Solving

Mathematical

9. PRACTICE Use Number Sense

Lambert's Livery rents canoes every weekend. How many total canoes were rented in June and July?

Lambert's Livery Canoe Rentals	
Month	Rentals
June	154
July	198
August	176



My Work!

Test Practice

10. During Math Week, there were 77 visitors on Monday and 28 visitors on Tuesday. How many visited during Math Week those two days?

- (A) 49 visitors (C) 105 visitors
 (B) 95 visitors (D) 205 visitors

MY Homework

Lesson 5

Estimate Sums

Homework Helper



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The parking lot in front of the school has 153 parking spaces. The parking lot behind the school has 138 spaces. About how many parking spaces are there in all?

Estimate $153 + 138$.

Round, and then add.

One Way Hundreds Place

hundreds	tens	ones	
1	5	3	→ 200
+	1	3	8 → + 100
			<u>300</u>

To the nearest hundred, the parking lot has about 300 parking spaces.

Both estimates are reasonable.

Another Way Tens Place

hundreds	tens	ones	
1	5	3	→ 150
+	1	3	8 → + 140
			<u>290</u>

To the nearest ten, the parking lot has about 290 parking spaces.

Practice

Estimate. Round each addend to the indicated place value.

1. $34 + 65$; tens

_____ + _____ = _____

2. $583 + 321$; hundreds

_____ + _____ = _____

3. $591 + 234$; hundreds

_____ + _____ = _____

4. $\$3,327 + \$1,548$; tens

_____ + _____ = _____

5. $2,613 + 3,177$; tens

_____ + _____ = _____

6. $\$251 + \207 ; hundreds

_____ + _____ = _____

7. Estimate. Round each addend to the nearest ten and nearest hundred.

Nearest Ten

Nearest Hundred

$$\begin{array}{r} 363 \\ + 132 \\ \hline \end{array}$$



Problem Solving

8. Three large pizzas cost \$36. Two medium pizzas cost \$25. To the nearest ten, about how much do all 5 pizzas cost?

Mathematical



9. **PRACTICE** **Use Number Sense** Four hundred ninety-one people attended the school play and 422 people attended the band concert. About how many people attended these two events altogether? Round to the nearest hundred.

Vocabulary Check



10. Use each word below to explain how you solved Exercise 9.

round

estimate

Test Practice

11. Which of the following is the estimated sum of 380 and 437 to the nearest hundred?
- (A) 700 (C) 817
(B) 800 (D) 820

MY Homework

Lesson 6

Hands On: Use Models to Add

Homework Helper



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How many total miles did Carrie travel?

City to City	Distance
Buffalo to Harrisburg	186 miles
Harrisburg to Philadelphia	105 miles

1 Estimate the sum.

$$186 + 105 \rightarrow 200 + 100 = 300$$

Use your estimate to check for reasonableness later.

2 Model $186 + 105$.

3 Regroup 10 ones for 1 ten.

4 Add the tens and the hundreds.

hundreds	tens	ones

There are 2 hundreds, 9 tens, and 1 ones.

$$186 + 105 = 291$$

Carrie traveled 291 miles.

Check

291 is close to the estimate of 300. The answer is reasonable.

Practice

1. Draw place-value blocks to show the sum.

$$272 + 119 = \underline{\hspace{2cm}}$$


Draw place-value blocks to show the sum.

2. $632 + 354 =$ _____

3. $216 + 775 =$ _____



Problem Solving

- 4. PRACTICE**  **Model Math** Luisa has 183 pennies. Her dad gives her 128 more. Write a number sentence to show how many pennies Luisa has now.

5. Jonah has read 265 pages. He has 147 more to read. How many pages will he read in all?

Vocabulary Check



Choose the correct word to complete each sentence.

reasonable regroup sum

6. _____ means to rename a number using place value.
7. The answer to an addition sentence is called the _____.
8. Estimate the exact answer before solving the problem to see if your answer is _____.

MY Homework

Lesson 7

Add Three-Digit Numbers

Homework Helper



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A toy store sold 223 robots last year. This year, they sold 198 robots. How many robots did they sell over the two years?

Find $223 + 198$.

Estimate $223 + 198 \longrightarrow 200 + 200 = 400$



1 Add the ones.

$3 \text{ ones} + 8 \text{ ones} = 11 \text{ ones}$

Regroup 11 ones as 1 ten and 1 one.



2 Add the tens and hundreds.

$1 \text{ ten} + 2 \text{ tens} + 9 \text{ tens} = 12 \text{ tens}$

Regroup 12 tens as 1 hundred and 2 tens.

$1 \text{ hundred} + 2 \text{ hundreds} + 1 \text{ hundred} = 4 \text{ hundreds}$

$$\begin{array}{r} 11 \\ 223 \\ + 198 \\ \hline 421 \end{array}$$

Check for reasonableness

421 is close to the estimate of 400. The answer is reasonable.

So, $223 + 198 = 421$.

The store sold 421 toy robots over the two years.

Practice

Add. Check for reasonableness.

1.

$$\begin{array}{|c|c|c|} \hline 1 & 7 & 8 \\ + & 9 & 9 \\ \hline & & \\ \hline \end{array}$$

Estimate:

2.

$$\begin{array}{|c|c|c|} \hline 6 & 9 & 5 \\ + 1 & 4 & 1 \\ \hline & & \\ \hline \end{array}$$

Estimate:

3.

$$\begin{array}{|c|c|c|c|} \hline \$ & 3 & 2 & 7 \\ + \$ & & 5 & 6 \\ \hline & & & \\ \hline \end{array}$$

Estimate:

Add. Use the Commutative Property to check for accuracy.

$$\begin{array}{r} \$ \quad 3 \quad 5 \quad 0 \\ + \$ \quad 4 \quad 6 \quad 5 \\ \hline \$ \quad \quad \quad \end{array}$$

$$\begin{array}{r} \$ \quad 4 \quad 6 \quad 5 \\ + \$ \quad 3 \quad 5 \quad 0 \\ \hline \$ \quad \quad \quad \end{array}$$

$$\begin{array}{r} 1 \quad 9 \quad 6 \\ + 2 \quad 8 \quad 6 \\ \hline \quad \quad \quad \end{array}$$

$$\begin{array}{r} 2 \quad 8 \quad 6 \\ + 1 \quad 9 \quad 6 \\ \hline \quad \quad \quad \end{array}$$

Algebra Add to find the unknown.

6. $661 + 99 = \blacksquare$

7. $\$258 + \$337 = \blacksquare$

8. $\$739 + \$81 = \blacksquare$

$$\begin{array}{r} \quad \quad \quad \\ + \quad \quad \quad \\ \hline \quad \quad \quad \end{array}$$

$$\begin{array}{r} \quad \quad \quad \\ + \quad \quad \quad \\ \hline \quad \quad \quad \end{array}$$

$$\begin{array}{r} \quad \quad \quad \\ + \quad \quad \quad \\ \hline \quad \quad \quad \end{array}$$

The unknown is . The unknown is . The unknown is .



Problem Solving

- 9. PRACTICE** **Make a Plan** The principal ordered 215 muffins and 155 bagels. How many muffins and bagels were ordered in all?

Vocabulary Check



Choose the correct word to complete each sentence.

reasonable regroup unknown

10. To _____ means to rename a number using place value.
 11. A missing number is the _____.
 12. If an answer makes sense, it is _____.

Test Practice

13. Mrs. Lewis bought two statues for her garden. One cost \$145 and one cost \$262. What was the total cost?
- (A) \$117 (C) \$407
 (B) \$317 (D) \$410

MY Homework

Lesson 8

Add Four-Digit Numbers

Homework Helper



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The circus had an attendance of 7,245 people in the bleachers and 1,877 people in the box seats for the Friday night show. How many people attended the circus altogether?

Find $7,245 + 1,877$.

Estimate $7,200 + 1,900 = 9,100$

1

Add the ones.

5 ones + 7 ones = 12 ones
Regroup 12 ones as 1 ten and 2 ones.

2

Add the tens.

1 ten + 4 tens + 7 tens = 12 tens
Regroup 12 tens as 1 hundred and 2 tens.

3

Add the hundreds and thousands.

1 hundred + 2 hundreds + 8 hundreds = 11 hundreds
Regroup 11 hundreds as 1 thousand and 1 hundred.
1 thousand + 7 thousands + 1 thousand = 9 thousands

$$\begin{array}{r}
 1 \quad 1 \quad 1 \\
 7,245 \\
 + 1,877 \\
 \hline
 9,122
 \end{array}$$

Check for reasonableness.

9,122 is close to the estimate of 9,100.
The answer is reasonable.

$$7,245 + 1,877 = 9,122.$$

On Friday night, 9,122 people attended the circus.

Practice

Add. Check for reasonableness.

1.

$$\begin{array}{|c|c|c|c|}
 \hline
 4, & 0 & 9 & 1 \\
 + & 2, & 2 & 3 & 8 \\
 \hline
 & & & & \\
 \hline
 \end{array}$$

2.

$$\begin{array}{|c|c|c|c|c|}
 \hline
 \$ & 5, & 0 & 4 & 5 \\
 + & \$ & 3, & 9 & 9 & 9 \\
 \hline
 & & & & & \\
 \hline
 \end{array}$$

Add. Check for reasonableness.

3.

2,	0	8	8
+ 6,	3	4	6
<hr/>			

4.

4,	4	6	3
+ 4,	8	1	9
<hr/>			

5.

3,	8	6	6
+ 4,	7	2	7
<hr/>			

6. Use the Commutative Property to check your answer to Exercise 3.

6,	3	4	6
+ 2,	0	8	8
<hr/>			

Algebra Add to find each unknown.

7. $7,028 + 2,578 = \blacksquare$

8. $5,724 + 2,197 = \blacksquare$

9. $4,999 + 4,265 = \blacksquare$

7,	0	2	8
+ 2,	5	7	8
<hr/>			

5,	7	2	4
+ 2,	1	9	7
<hr/>			

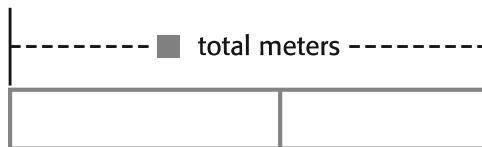
4,	9	9	9
+ 4,	2	6	5
<hr/>			

The unknown is _____. The unknown is _____. The unknown is _____.



Problem Solving

10. PRACTICE **Use Algebra** Rachael ran 3,012 meters on Monday and 5,150 meters on Wednesday. How many meters did she run altogether? Write a number sentence with a symbol for the unknown. Then solve.



Test Practice

11. Mr. Shelton worked 1,976 hours one year and 2,080 hours the next year. What is the total number of hours Mr. Shelton worked in those two years?

- (A) 3,056 hours (C) 4,156 hours
- (B) 3,956 hours (D) 4,056 hours




Problem Solving

Determine a reasonable answer for each problem.

1. Students have borrowed 632 fiction books and 392 non-fiction books from the school library. Is it reasonable to say the students borrowed about 1,000 books? Explain.

2. Some students from Sydney Elementary have entered a National Poetry contest. There are 19 second graders, 23 third graders, and 9 fourth graders who have entered. Are there at least 50 students entered in the contest? Explain.

3. **Mathematical PRACTICE**  **Reason** The head of Gracie's favorite dinosaur is 14 feet long, the body is 26 feet long, and the tail is 19 feet long. Is it reasonable to say the entire dinosaur is 60 feet long? Explain.

Use the table to solve Exercises 4 and 5.

Radio Stations	
Country	3,589 listeners
Rock	2,986 listeners
Hip Hop	3,472 listeners

4. How many people listen to country and hip hop?
5. The goal for the rock station was to have 3,000 listeners. Is it reasonable to say that the rock station reached its goal? Explain.

My Work!

