

SKILL 1: Place Value to Hundred Millions

Student pages 1-2

Name _____ Date _____ Class _____



SKILL 1: Place Value to Hundred Millions

Every digit of a number has a **place value**. The place value tells you how much the digit represents. You can use a place value chart to show the place value of a number. The chart is separated into **periods**. You can use the names of the periods to help read or write the number. The standard form of a number uses commas to separate the periods.

Example

Millions Period			Thousands Period			Ones Period		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones
7	2	1	5	0	6	0	0	5

Standard form: 72,150,605

Number-word form: 72 million, 150 thousand, 605

Word form: seventy-two million, one hundred fifty thousand, six hundred five

So, 72,150,605 can be written as seventy-two million, one hundred fifty thousand, six hundred five.

Guided Practice

Write the number in words.

1. 657,004,200
six hundred fifty-seven million, four thousand, two hundred

2. 3,809,044
three million, eight hundred nine thousand, forty-four

Write each number in standard form.

3. twelve million, one thousand, fifteen 12,001,015
4. eight hundred seven million, two hundred sixty thousand, seven hundred three
807,260,703

Section A: Adding and Subtracting Whole Numbers

Whole Numbers 1

Name _____ Date _____ Class _____

SKILL 1: Practice

Write the word form of each number.

1. 3,784 three thousand, seven hundred eighty-four
2. 842,630 eight hundred forty-two thousand, six hundred thirty
3. 7,308,060 seven million, three hundred eight thousand, sixty

Write each number in standard form.

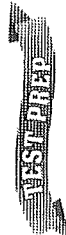
4. 2 million 2,000,000 5. 63 thousand 63,000
6. 42 million, 650 thousand 42,650,000
7. Five million, six hundred fifty thousand, three hundred twenty 5,650,320
8. Eight hundred million, seven hundred twenty thousand, two hundred five
800,720,205

For each number, fill in the blank. Give your answers in standard form.

9. 93,000 = 93 thousand 10. 2,000,000 = 2 million
11. 118,000,000 = 118 million 12. 306,000 = 306 thousand

Solve.

13. The area of North America is about 9,110,000 square miles. Write this area in word form and in number-word form.
nine million, one hundred ten thousand
9 million, 110 thousand



14. What is 9,012,000 in word form?
Skill 1

A nine million twelve
B nine million, twelve thousand
C ninety million, twelve
D ninety million, twelve thousand

15. Write one million, two hundred fifty-six thousand, ten in standard form.

Skill 1
F 1,256,010 H 100,256,010
G 1,256,100 J 100,256,100

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Section A: Adding and Subtracting Whole Numbers

2 Whole Numbers

SKILL 2: Rounding Large Numbers

Student pages 3-4

Name _____ Date _____ Class _____



SKILL 2: Rounding Large Numbers

Rounding is one way to find a number convenient to use to describe quantities. Rounding will give you the closest number to a given place value.

Example

Round 82,439 to the nearest hundred.

8 2 4 3 9

There are four steps involved in the rounding process:

Step 1: Find the place value. The place value is "hundreds."

Step 2: Look at the digit to the right. The digit is 3.

Step 3: If this digit is 5 or greater, add one to the place-value digit. If it's less than 5, leave the place-value digit alone.

3 is less than 5, so the 4 will not change.

Step 4: Change the digits to the right to zeros. The rounded number is 82,400.
82,439 rounds to 82,400 when rounding to the nearest hundred.

Guided Practice

- Round 132,874,015 to the nearest hundred-thousands.
 - The hundred-thousands digit is 8.
 - The digit to the right of the hundred-thousands is 7.
 - Is that digit 5 or greater? yes
 - Write the rounded number. Remember to change digits to the right of hundred-thousands to zeros. 132,900,000

Round each number to the given place.

- 941 to the tens place 940
- 103,555 to the thousands place 104,000
- 1,806,090 to the ten-thousands place 1,810,000
- 27,971 to the tens place 27,970
- 670,159 to the hundreds place 670,200

Section A: Adding and Subtracting Whole Numbers

Whole Numbers 3

Name _____

Date _____

Class _____

SKILL 2: Practice

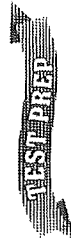
Round to the given place.

- 38,721 to hundreds
38,700
- 432,483 to ten-thousands
430,000
- 1,387,216 to tens
1,387,220
- 83,172 to hundreds
83,200
- 392,621 to thousands
393,000
- 471,832,103 to millions
472,000,000
- 982,364 to hundreds
982,400
- 408,069 to tens
408,070
- 3,871,664 to hundred-thousands
3,900,000
- 6,378,294 to thousands
6,378,000
- Round the number to the given place: 56,603,964.
 - hundreds 56,604,000
 - thousands 56,604,000
 - ten-thousands 56,600,000

Solve.

- Tom's kitchen requires 33 feet of wallpaper border. He selects a design available in a package with a 10-foot length of border. Since 33 rounds to 30, he buys 3 packages. Do you agree with his reasoning? Explain.

No. He needs at least 33 feet, so he should buy 4 packages.



- Round 123,455 to the nearest thousand.

A 120,000
B 123,400
C 123,000
D 124,000

Skill 2

- Write twenty million, one hundred ten thousand, forty-six in standard form.

F 2,110,046
G 2,110,460
H 20,110,046
J 21,010,460

Skill 1

Section A: Adding and Subtracting Whole Numbers

Whole Numbers

SKILL 3:

Comparing and Ordering Numbers

Student pages 5-6

Name _____ Date _____ Class _____



SKILL 3: Comparing and Ordering Numbers

You know that if two numbers have a different number of digits, the number with more digits is the larger number.

To compare two numbers with the same number of digits, start at the left and find the first place-value position that has different digits. The number with the larger digit is the larger number. The symbols $>$ and $<$ are used to compare numbers.

The symbol $>$ means "is greater than."

The symbol $<$ means "is less than."

Example

Compare 87,812 and 87,349.

The numbers have the same number of digits.
Start with the digit at the left.

Step 1: $\begin{array}{|c|c|c|c|c|} \hline 8 & 7 & 8 & 1 & 2 \\ \hline 8 & 7 & 3 & 4 & 9 \\ \hline \end{array}$ Compare the ten-thousands digits. They are equal.

Step 2: $\begin{array}{|c|c|c|c|c|} \hline 8 & 7 & 8 & 1 & 2 \\ \hline 8 & 7 & 3 & 4 & 9 \\ \hline \end{array}$ Next compare the thousands digits. They are equal.

Step 3: $\begin{array}{|c|c|c|c|c|} \hline 8 & 7 & 8 & 1 & 2 \\ \hline 8 & 7 & 3 & 4 & 9 \\ \hline \end{array}$ Then compare the hundreds digits. 8 is greater than 3.

So, 87,812 is greater than 87,349, or $87,812 > 87,349$.

Guided Practice

1. Compare 21,009 and 21,090.

a. Compare the digits, starting at the left.
In which place-value positions are the digits the same?
ten-thousands, thousands, hundreds

b. For the first two digits that are not the same, which digit is greater? 9

c. Which is greater: 21,009 or 21,090? 21,090

d. Compare 6,802 and 6,820. Which is greater? 6,820

Compare the numbers, using $>$ or $<$.

2. $45 < 54$ 3. $932 > 923$ 4. $5,676 > 5,675$

5. $6,321 > 6,279$ 6. $11,122 < 11,211$ 7. $707,213 < 778,689$

Section A: Adding and Subtracting Whole Numbers

Whole Numbers 5

Name _____ Date _____ Class _____

SKILL 3: Practice

Order each group of numbers from least to greatest.

- 3,000; 20,000; 400; 50 50; 400; 3,000; 20,000
- 38,000; 37,940; 38,010 37,940; 38,000; 38,010
- 6,748; 6,847; 6,487; 6,874 6,487; 6,748; 6,847; 6,874
- 78,321; 873,210; 783,210 78,321; 783,210; 873,210
- 1,243; 1,342; 1,324; 1,234 1,234; 1,243; 1,324; 1,342
- 99,909; 99,000; 99,900; 90,000 90,000; 99,000; 99,900; 99,909
- 82,270; 83,100; 82,200; 82,170 82,170; 82,200; 82,270; 83,100
- 48,380; 48,376; 48,408; 48,480 48,376; 48,380; 48,408; 48,480
- 63,821; 63,900; 63,800; 64,000 63,800; 63,821; 63,900; 64,000
- 1,675; 15 hundred; 2 thousand 15 hundred; 1,675; 2 thousand
- 19 million; 2 million; 30 thousand 30 thousand; 2 million; 19 million
- 18 thousand; 18 million; 180,000 18 thousand; 180,000; 18 million

Solve.

13. In 1996, 1,490,400 Americans were employed in printing and publishing, 1,421,648 were employed in real estate, and 1,600,846 were employed in hotels and other lodging places. Rank these industries from the fewest employees to the most employees.

real estate, printing and publishing, hotels and other lodging places



14. Which number is less than 5,308?

- (A) 3,508 C 5,380
B 5,803 D 8,035

Skill 3

15. Round 86,991 to the nearest hundred.

- F 86,100 H 86,900
G 86,800 J 87,000

Skill 2

SKILL 4: Addition Facts and Subtraction Facts

Student pages 7-8

Name _____ Date _____ Class _____



SKILL 4: Addition Facts and Subtraction Facts

Addition and subtraction are opposite operations. You can write a fact family to relate sums and differences.

Example

Write a fact family for 6, 8, and 14.
 $6 + 8 = 14$ $8 + 6 = 14$
 $14 - 8 = 6$ $14 - 6 = 8$

You can use the properties of addition to add numbers.

Commutative Property: You can add two numbers in any order.

Example: $5 + 9 = 9 + 5$
 $14 = 14$

Associative Property:

You can group numbers in any order to add them.
 Example: $(3 + 4) + 5 = 3 + (4 + 5)$
 $7 + 5 = 3 + 9$
 $12 = 12$

Identity Element:

The sum of zero and any number is the number.
 Example: $37 + 0 = 37$

Guided Practice

Find the sum. Then write two related subtraction facts.

- $4 + 7 = 11$ $11 - 7 = 4$ $11 - 4 = 7$
- $9 + 8 = 17$ $17 - 8 = 9$ $17 - 9 = 8$
- $7 + 9 = 16$ $16 - 9 = 7$ $16 - 7 = 9$

Find the difference. Then write two related addition facts.

- $15 - 7 = 8$ $8 + 7 = 15$ $7 + 8 = 15$
- $12 - 8 = 4$ $4 + 8 = 12$ $8 + 4 = 12$
- $14 - 9 = 5$ $5 + 9 = 14$ $9 + 5 = 14$

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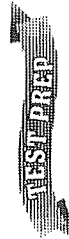
SKILL 4: Practice

Add or subtract.

- $7 + 6 = 13$
- $15 - 8 = 7$
- $8 + 8 = 16$
- $12 + 0 = 12$
- $16 - 9 = 7$
- $11 - 7 = 4$
- $12 - 0 = 12$
- $6 + 4 = 10$
- $3 + 9 = 12$
- $13 - 8 = 5$
- $8 + 4 = 12$
- $14 - 7 = 7$
- $9 + 5 = 14$
- $15 - 0 = 15$
- $17 + 0 = 17$
- $13 - 6 = 7$
- Add.
- $7 + 3 + 1 = 13$
- $6 + 8 + 3 = 17$
- $6 + 5 + 5 = 16$
- $9 + 5 + 4 = 18$
- $8 + 5 + 2 = 15$
- $6 + 7 + 4 = 17$

Solve.

- Jeremy read 8 books last month. This month he wants to read 5 more than the number of books he read last month. How many books does Jeremy want to read this month?
13 books
- Mona bought a dozen eggs. She dropped the carton and 5 eggs broke. How many unbroken eggs did she have?
7 eggs



25. Find the sum: $3 + 9 + 6$.

- A 12 C 17
 B 15 D 18

Skill 4

26. What is 50,993 rounded to the nearest thousand?

- F 50,000 H 59,000
 G 51,000 J 60,000

Skill 2

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SKILL 5: Addition and Subtraction of Multiples of Ten

Student pages 9-10

Name _____ Date _____ Class _____

SKILL 5: Addition and Subtraction of Multiples of Ten

Think about basic addition and subtraction facts when you add or subtract multiples of ten.

Example

Add: $40 + 90$.

Write the sum in a column.
Then add the tens.

$$\begin{array}{r} 40 \\ + 90 \\ \hline 130 \end{array}$$

Subtract: $150 - 80$.

Write the difference in a column.
Then subtract the tens.

$$\begin{array}{r} 150 \\ - 80 \\ \hline 70 \end{array}$$

Guided Practice

Add or subtract.

1. $30 + 50 = ?$ Think: $3 + 5 = 8$ So, $30 + 50 = 80$
2. $70 + 20 = ?$ Think: $7 + 2 = 9$ So, $70 + 20 = 90$
3. $60 + 80 = ?$ Think: $6 + 8 = 14$ So, $60 + 80 = 140$
4. $130 + 160 = ?$ Think: $13 + 16 = 29$ So, $130 + 160 = 290$
5. $90 - 30 = ?$ Think: $9 - 3 = 6$ So, $90 - 30 = 60$
6. $70 - 50 = ?$ Think: $7 - 5 = 2$ So, $70 - 50 = 20$
7. $120 - 60 = ?$ Think: $12 - 6 = 6$ So, $120 - 60 = 60$
8. $170 - 130 = ?$ Think: $17 - 13 = 4$ So, $170 - 130 = 40$

9. $7 + 2 = 9$
10. $70 + 20 = 90$
11. $700 + 200 = 900$
12. $18 + 19 = 37$
13. $1,800 + 1,900 = 3,700$
14. $18,000 + 19,000 = 37,000$
15. $9 - 3 = 6$
16. $90 - 30 = 60$
17. $900 - 300 = 600$
18. $270 - 130 = 140$
19. $2,700 - 1,300 = 1,400$
20. $27,000 - 13,000 = 14,000$

Section A: Adding and Subtracting Whole Numbers

Whole Numbers 9

Name _____ Date _____ Class _____

SKILL 5: Practice

Find the sum or difference.

$$\begin{array}{r} 1. \quad 20 \\ + 30 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 3. \quad 100 \\ - 30 \\ \hline 70 \end{array}$$

$$\begin{array}{r} 4. \quad 50 \\ + 70 \\ \hline 120 \end{array}$$

$$\begin{array}{r} 5. \quad 900 \\ - 500 \\ \hline 400 \end{array}$$

$$\begin{array}{r} 7. \quad 1,100 \\ - 600 \\ \hline 500 \end{array}$$

$$\begin{array}{r} 8. \quad 40 \\ + 80 \\ \hline 120 \end{array}$$

$$\begin{array}{r} 9. \quad 3,000 \\ + 8,000 \\ \hline 11,000 \end{array}$$

$$\begin{array}{r} 11. \quad 140 \\ - 70 \\ \hline 70 \end{array}$$

$$\begin{array}{r} 12. \quad 80 \\ + 80 \\ \hline 160 \end{array}$$

$$13. \quad 90 + 50 = 140$$

$$14. \quad 30 + 30 = 60$$

$$15. \quad 160 - 90 = 70$$

$$16. \quad 800 - 100 = 700$$

$$17. \quad 700 + 300 = 1,000$$

$$18. \quad 130 - 90 = 40$$

$$19. \quad 9,000 + 8,000 = 17,000$$

$$20. \quad 1,500 - 700 = 800$$

$$21. \quad 80 - 40 = 40$$

$$22. \quad 300 + 800 = 1,100$$

$$23. \quad 6,000 - 2,000 = 4,000$$

$$24. \quad 900 + 600 = 1,500$$

Solve.

25. Katie and her brother Emil collect trading cards. They each have 50 cards in their collection. How many cards will they have if they combine their collections?

100 cards

26. Jeff ran a 200-meter race. Janicks ran a 500-meter race. How much farther did Janicks run?

300 meters



27. Find the difference: $160 - 70$. Skill 5

- A 60 C 80
B 70 D 90

28. What is the value of the 8 in 62,830,012?

- F 800 H 80,000
G 800,000 J 8,000,000

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Section A: Adding and Subtracting Whole Numbers

Whole Numbers 9

SKILL 6: Estimating Sums and Differences

Student pages 11-12

Name _____ Date _____ Class _____



SKILL 6: Estimating Sums and Differences

To estimate a sum or a difference, round the numbers to make the computation easier.

Example 1

Estimate $58,281 + 23,685$.

Round each number so they are easy to add to one another. For example, round both numbers to ten thousands.

58,281 rounds to 60,000.
23,685 rounds to 20,000.
So, $58,281 + 23,685$ is about 80,000.

Example 2

Estimate $310 + 305 + 298 + 296 + 302$ by using a number that is close to all of the numbers. (This is called **clustering**.)

Each of the numbers is close to 300. There are 5 numbers.
 $300 + 300 + 300 + 300 + 300 = 5 \times 300 = 1500$
So, $310 + 305 + 298 + 296 + 302$ is about 1500.

Guided Practice

Estimate. Show the rounded numbers you used. *Estimates may vary.*

$$1. \begin{array}{r} 2,118 + 4,628 \\ \underline{2,000} + \underline{5,000} = \underline{7,000} \end{array} \quad \begin{array}{r} 2. \begin{array}{r} 93,803 - 52,524 \\ \underline{90,000} - \underline{50,000} = \underline{40,000} \end{array} \end{array}$$

$$3. \begin{array}{r} 1,281 - 908 \\ \underline{1,300} - \underline{900} = \underline{400} \end{array} \quad \begin{array}{r} 4. \begin{array}{r} 759,833 + 48,395 \\ \underline{800,000} + \underline{50,000} = \underline{850,000} \end{array} \end{array}$$

5. Estimate $1,891 + 1,994 + 2,159$ using clustering.

- What number is close to the three numbers being added? 2,000
 - How many numbers are being added? 3
 - Estimate $1,891 + 1,994 + 2,159$. 6,000
6. Estimate $468 + 525 + 491 + 501$ using clustering. 2,000

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Name _____ Date _____ Class _____

SKILL 6: Practice

Estimate. *Estimates may vary.*

- $38,624 + 83,102$
120,000
- $47,623 - 12,385$
40,000
- $37 + 42 + 43$
120
- $387 + 410 + 405$
1,200
- $824,368 + 217,638$
1,000,000
- $847,167 - 382,208$
400,000
- $6,375 - 1,890$
4,000
- $7,538 + 2,317$
10,000
- $163,462 + 3,210$
166,000
- $6,138 + 5,963 + 6,023 + 5,874 + 6,003$
30,000
- $69 + 73 + 71 + 68 + 70 + 72 + 67 + 72$
560
- $894 + 925 + 888 + 907 + 873 + 895$
5,400
- $83,762 + 83,984 + 84,731 + 84,201$
320,000
- $1,632 + 3,129 + 6,473 + 3,217$
14,000
- $58,128 + 59,370 + 60,028 + 62,310$
240,000

Solve.

16. A world record for dart throwing was set by the members of the Broken Hill Darts Club, with a score of 1,722,249 points in 24 hours. The record score for a women's team is 744,439, achieved by a British team. About how many more points were scored by the Broken Hill Darts Club than by the British team?
About 1,000,000 points



17. Estimate: $49 + 52 + 46$.
A 15 C 120 Skill 6
B 100 D 150
18. Round 2,807,563 to the nearest thousand.
F 3,000,000 H 2,808,000 Skill 2
G 2,800,000 J 2,807,000

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SKILL 7: Addition with Renaming

Student pages 13-14

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SKILL 7: Addition with Renaming

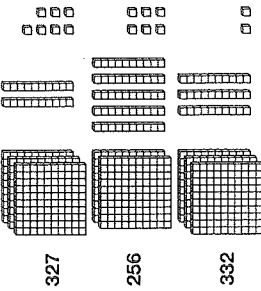
You can use place-value blocks to help you add.

Example

$$\text{Add: } 327 + 256 + 332.$$

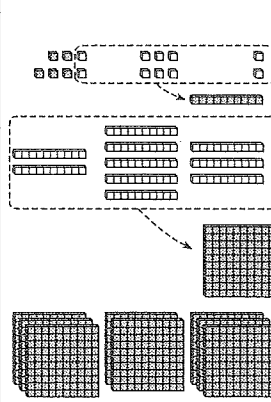
Count the ones.

Regroup 10 ones to make 1 ten.



Count the tens.

Regroup 10 tens to make 1 hundred.



Count the hundreds.

$$327 + 256 + 332 = 915$$

Guided Practice

Find each sum.

$$1. \begin{array}{r} 335 \\ 521 \\ + 67 \\ \hline 923 \end{array}$$

$$2. \begin{array}{r} 437 \\ + 259 \\ \hline 696 \end{array}$$

$$3. \begin{array}{r} 1259 \\ + 4386 \\ \hline 5645 \end{array}$$

$$4. \begin{array}{r} 3826 \\ + 1516 \\ \hline 5342 \end{array}$$

$$6. 832 + 214 + 488 = 1,534$$

Section A: Adding and Subtracting Whole Numbers

Whole Numbers 13

Name _____ Date _____ Class _____

SKILL 7: Practice

Find each sum.

$$1. \begin{array}{r} 583 \\ + 795 \\ \hline 1,378 \end{array}$$

$$2. \begin{array}{r} 486 \\ + 399 \\ \hline 885 \end{array}$$

$$3. \begin{array}{r} 851 \\ + 909 \\ \hline 1,760 \end{array}$$

$$4. \begin{array}{r} 567 \\ + 4,892 \\ \hline 5,459 \end{array}$$

$$5. \begin{array}{r} 376 \\ + 49 \\ \hline 425 \end{array}$$

$$6. \begin{array}{r} 748 \\ + 992 \\ \hline 1,740 \end{array}$$

$$7. \begin{array}{r} 8,601 \\ + 1,266 \\ \hline 9,867 \end{array}$$

$$8. \begin{array}{r} 252 \\ + 3,889 \\ \hline 4,141 \end{array}$$

$$9. \begin{array}{r} 1,776 \\ + 5,439 \\ \hline 7,215 \end{array}$$

$$10. \begin{array}{r} 2,468 \\ + 1,737 \\ \hline 4,205 \end{array}$$

$$11. \begin{array}{r} 8,006 \\ + 9,959 \\ \hline 17,965 \end{array}$$

$$12. \begin{array}{r} 3,839 \\ + 2,619 \\ \hline 6,458 \end{array}$$

$$13. \begin{array}{r} 18,386 \\ + 965 \\ \hline 19,351 \end{array}$$

$$14. \begin{array}{r} 45,123 \\ + 13,796 \\ \hline 58,919 \end{array}$$

$$15. \begin{array}{r} 25,451 \\ + 60,909 \\ \hline 86,360 \end{array}$$

$$16. \begin{array}{r} 132,569 \\ + 423,187 \\ \hline 555,756 \end{array}$$

$$17. 36 + 85 + 67 = 188$$

$$18. 123 + 569 + 37 = 729$$

$$19. 1,256 + 286 + 359 = 1,901$$

$$20. 2,354 + 6,221 + 1,243 = 9,818$$

$$21. 16,123 + 4,861 + 328 = 21,312$$

$$22. 11,286 + 10,037 + 28,005 = 49,328$$

Solve.

23. There were 6,325 students and 4,089 adults at the concert. How many people were at the concert in all? 10,414 people



24. Find the sum: $5,491 + 1,653$.

Skill 7

A 6,044 C 7,044

F $108 < 180$ H $5,905 < 5,095$

B 6,144 D 7,144

G $205 > 39$ J $8,006 > 7,999$

25. Which comparison is not true?

Skill 3

14 Whole Numbers

Section A: Adding and Subtracting Whole Numbers

SKILL 8: Subtraction with Renaming

Student pages 15-16

Name _____ Date _____ Class _____



SKILL 8: Subtraction with Renaming

Sometimes you must rename to subtract.

Example

Find $1,302 - 145$.

Since $2 < 5$, you must rename.
Rename 302 as "2 hundreds,
10 tens, and 2 ones."

Then, rename as
"2 hundreds, 9 tens,
and 12 ones."
Subtract the ones.

Subtract the
tens, hundreds,
and thousands.

$$\begin{array}{r} 1,302 \\ -145 \\ \hline \end{array}$$

$$\begin{array}{r} 2\ 10\ 12 \\ 1,302 \\ -145 \\ \hline \end{array}$$

$$\begin{array}{r} 2\ 10 \\ 1,302 \\ -145 \\ \hline \end{array}$$

So, $1,302 - 145 = 1,157$.

Guided Practice

Subtract. Rename when necessary.

- 419 a. Compare ones. Do you need to rename? no
-287 b. Compare tens. Do you need to rename? yes
c. $419 = 3$ hundreds, 11 tens, and 9 ones
d. $419 - 287 =$ 132

$$\begin{array}{r} 15 \\ 4\ 8\ 15 \\ 2\ 6\ 8 \\ -178 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ 6\ 7\ 16 \\ 7\ 2\ 8 \\ -329 \\ \hline \end{array}$$

$$\begin{array}{r} 17 \\ 3\ 7\ 17 \\ 4\ 8\ 7 \\ -198 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ 1\ 4\ 15 \\ 2\ 5\ 8 \\ -169 \\ \hline \end{array}$$

$$\begin{array}{r} 4,621 \\ -1,580 \\ \hline \end{array}$$

$$\begin{array}{r} 7,5044 \\ -4,589 \\ \hline \end{array}$$

$$\begin{array}{r} 8,211 \\ -1,566 \\ \hline \end{array}$$

$$\begin{array}{r} 525 \\ -278 \\ \hline \end{array}$$

$$\begin{array}{r} 9,213 \\ -4,865 \\ \hline \end{array}$$

$$\begin{array}{r} 11,24,039 \\ -1,202 \\ \hline \end{array}$$

$$\begin{array}{r} 12,56,123 \\ -19,095 \\ \hline \end{array}$$

$$\begin{array}{r} 13,53,918 \\ -12,928 \\ \hline \end{array}$$

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Section A: Adding and Subtracting Whole Numbers

Whole Numbers 15

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SKILL 8: Practice

Find each difference.

$$\begin{array}{r} 1. \ 500 \\ -324 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \ 7,000 \\ -4,968 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \ 308 \\ -136 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \ 4,062 \\ -1,292 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \ 6,006 \\ -723 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \ 3,300 \\ -1,551 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \ 5,900 \\ -899 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \ 4,003 \\ -423 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \ 18,000 \\ -12,351 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \ 86,213 \\ -3,478 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \ 75,186 \\ -24,251 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \ 421,805 \\ -350,211 \\ \hline \end{array}$$

$$13. \ 8,000 - 4,449 =$$

$$14. \ 2,000 - 376 =$$

$$15. \ 5,962 - 3,415 =$$

$$16. \ 7,040 - 2,634 =$$

$$17. \ 42,123 - 19,955 =$$

$$18. \ 15,268 - 2,228 =$$

$$19. \ 235,100 - 64,051 =$$

$$20. \ 58,000 - 4,390 =$$

$$21. \text{ What number is 2,438 less than 6,108? } =$$

$$22. \text{ What number is 146 less than 2,301? } =$$

Solve.

23. Angie wants to buy a mountain bike that costs \$619. She has saved \$425. How much more money does she need to buy the bike? \$194



$$24. \text{ Find the difference: } 5,612 - 1,820.$$

$$25. \text{ Estimate: } 34,531 - 12,499.$$

- A 3,792 C 4,212
B 3,892 D 4,392

- F 22,032 H 20,000
G 46,000 J 40,000

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Section A: Adding and Subtracting Whole Numbers

SKILL 9: PROBLEM SOLVING: Deciding When to Add or Subtract

Student pages 17-18

Name _____ Date _____ Class _____



SKILL 9: PROBLEM SOLVING: Deciding When to Add or Subtract

Sometimes you must decide which operation to use to solve a problem.

Example

Jan and Bobby went bowling on a Saturday afternoon. Bobby's scores were 98, 134, and 125. Jan's scores were 112, 208, and 99. Who had the greater total score?

Read You are given Jan's scores and Bobby's scores.

Plan You need to find out whose total score was greater.

Solve Decide what operation makes sense. Find Bobby's and Jan's total scores. To find a total of two or more numbers, add.

Bobby's scores $98 + 134 + 125 = 357$

Jan's scores $112 + 208 + 99 = 419$

Since $419 > 357$, Jan's total score was greater.

Look Back See that your answer makes sense. Each of Bobby's scores is about 100. So $3 \times 100 = 300$ is an estimate of his total. Jan's total is about $100 + 200 + 100 = 400$. $400 > 300$, so it makes sense that Jan's score is greater.

Guided Practice

Solve each problem.

- Marcia and Peter traveled 366 miles on their first day of vacation. The second day they traveled 486 miles. How many miles did they travel in those two days?

Add: 852 miles

- Karen and Sue run 2 miles every day. Karen has run 486 miles. Sue has run 366 miles. How many more miles has Karen run than Sue?

Subtract: 120 miles

- June read a 576-page book one week and a 328-page book the next. How many pages did she read in all?

904 pages

- For exercise, Cheryl jogs 5,280 yards and walks 3,085 yards. How much farther does she jog than she walks?

2,195 yards

Section A: Adding and Subtracting Whole Numbers

Whole Numbers 17

Name _____

Date _____

Class _____

SKILL 9: Practice

Write the letter of the number sentence you would use.

- The deluxe soccer gear set costs \$55. The regular soccer set costs \$27. What is the difference in cost between the two sets? b

a. $\$27 + \$55 = \$82$

b. $\$55 - \$27 = \$28$

c. $\$27 + \$82 + \$55 = \164

Solve each problem.

- The special chess set is \$14 less than the deluxe chess set, which costs \$68. How much is the special chess set? \$54

- Brandon planned on using \$83 to buy the deluxe chess set. He wanted to use his leftover money to buy a book on chess strategy, which costs \$12. How much money will Brandon have left? \$3

- Brianna has \$34 in babysitting money plus \$12 allowance. She would also like to buy the deluxe chess set. How much more money will she need? \$22

- Steven and his sister Jenna want to buy a gift that costs \$54 for their parents. Steven has \$15 and Jenna has \$24. Do they have enough money to buy the gift? If not, how much more money do they need? no; \$15

- Ruth's calculator read 41,687. She subtracted a number to get 18,943. What number did she subtract? 22,744

- Keshawna bought a bike on sale for \$189, a bike lock for \$9, and handlebar grips also on sale for \$15. The sale prices were saving her \$67. How much did she spend in all? \$213



- A scientist at the Elk Refuge tagged 38 bull elk and 112 cow elk. How many more cows did the scientist tag than bulls?

Skill 9

A 74 cows

C 126 cows

B 86 cows

D 150 cows

- Carlos has 135 baseball cards, 86 basketball cards, and 52 football cards. How many sports cards does he have in all?

Skill 7

F 163 cards

H 263 cards

G 173 cards

J 273 cards

Section A: Adding and Subtracting Whole Numbers

Whole Numbers 18

SKILL 11: Multiplication Facts

Student pages 23–24

Name _____ Date _____ Class _____



SKILL 11: Multiplication Facts

When you multiply, the numbers you multiply are the **factors**.
The answer is the **product**.

$$\begin{array}{r} 5 \times 7 = 35 \\ \swarrow \quad \nearrow \\ \text{factors} \quad \text{product} \end{array}$$

You can use the **identity** and **zero properties** of multiplication to help you multiply.

Example 1

Find 7×1 .

Identity Property: The product of one and any number is the number.

$7 \times 1 = 7$, and by the commutative property, you know $1 \times 7 = 7$.

Example 2

Find 0×9 .

Zero Property: The product of zero and any number is zero.

$0 \times 9 = 0$ and $9 \times 0 = 0$.

Guided Practice

1. Complete the multiplication table. Use the properties of multiplication to help you.

$\times$	0	1	2	3	4	5	6	7	8	9
0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9
2	0	2	4	6	8	10	12	14	16	18
3	0	3	6	9	12	15	18	21	24	27
4	0	4	8	12	16	20	24	28	32	36
5	0	5	10	15	20	25	30	35	40	45
6	0	6	12	18	24	30	36	42	48	54
7	0	7	14	21	28	35	42	49	56	63
8	0	8	16	24	32	40	48	56	64	72
9	0	9	18	27	36	45	54	63	72	81

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Name _____ Date _____ Class _____

SKILL 11: Practice

Find each product.

- $6 \times 0 = \underline{0}$
- $1 \times 9 = \underline{9}$
- $6 \times 7 = \underline{42}$
- $8 \times 4 = \underline{32}$
- $6 \times 8 = \underline{48}$
- $7 \times 7 = \underline{49}$
- $0 \times 4 = \underline{0}$
- $7 \times 8 = \underline{56}$
- $8 \times 5 = \underline{40}$
- $8 \times 9 = \underline{72}$
- $9 \times 2 = \underline{18}$
- $5 \times 9 = \underline{45}$
- $8 \times 8 = \underline{64}$
- $5 \times 7 = \underline{35}$
- $6 \times 6 = \underline{36}$
- $6 \times 9 = \underline{54}$
- $9 \times 7 = \underline{63}$
- $9 \times 9 = \underline{81}$
- $1 \times 8 = \underline{8}$
- $5 \times 6 = \underline{30}$
- $9 \times 4 = \underline{36}$
- $3 \times 9 = \underline{27}$
- $8 \times 7 = \underline{56}$
- $7 \times 4 = \underline{28}$
- $7 \times 9 = \underline{63}$
- $3 \times 8 = \underline{24}$
- $9 \times 6 = \underline{54}$
- $4 \times 9 = \underline{36}$
- $4 \times 7 = \underline{28}$
- $7 \times 0 = \underline{0}$

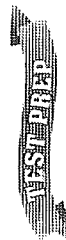
Solve.

31. Ann bought 9 packages of sesame rolls for a party. Each package has 8 rolls. How many rolls did she buy?

72 rolls

32. Ann also bought 7 packages of orange juice and 9 packages of apple juice. If there were 6 cartons of juice in each package, how many cartons did she buy?

96 cartons



33. Find the product: 7×6 .

- A 54 C 49
B 35 D 42

Skill 11

34. Subtract: $9,020 - 438$.

- F 4,640 H 9,418
G 8,582 J 9,452

Skill 8

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SKILL 12: Multiplying Multiples of Ten

Student pages 25–26

Name _____ Date _____ Class _____



SKILL 12: Multiplying Multiples of Ten

You can use place-value blocks and patterns to multiply.



$$2 \times 10 = 2 \text{ tens} = 20$$



$$20 \times 10 = 20 \text{ tens} = 2 \text{ hundreds} = 200$$

You can continue the pattern.

$$200 \times 10 = 200 \text{ tens} = 2 \text{ thousands} = 2,000$$

Example

$$\text{Find } 400 \times 70.$$

Count the number of ending zeros.

$$400 \times 70$$

2 zeros + 1 zero = 3 zeros

$$\text{So, } 400 \times 70 = 28,000$$

Multiply the parts that are not zero.

$$4 \times 7 = 28$$

Annex the ending zeros.

$$28 \text{ followed by } 3 \text{ zeros is } 28,000.$$

Guided Practice

Find each product.

$$1. 500 \times 600$$

$$2 \text{ zeros} + 2 \text{ zeros} = 4 \text{ zeros}$$

$$5 \times 6 = 30$$

$$500 \times 600 = 300,000$$

$$3. 90 \times 200 = 18,000$$

$$\text{Product is } 9 \times 2 = 18 \text{ followed by } 3 \text{ zeros.}$$

$$4. 4,000 \times 500 = 2,000,000$$

$$\text{Product is } 4 \times 5 = 20 \text{ followed by } 5 \text{ zeros.}$$

$$5. 6,000 \times 6,000 = 36,000,000$$

$$\text{Product is } 6 \times 6 = 36 \text{ followed by } 6 \text{ zeros.}$$

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Section B: Multiplying Whole Numbers

Whole Numbers 25

Name _____ Date _____ Class _____

SKILL 12: Practice

Find each product.

$$1. 50 \times 50 = 2,500$$

$$3. 300 \times 900 = 270,000$$

$$5. 6 \times 900 = 5,400$$

$$7. 7,000 \times 70 = 490,000$$

$$9. 9,000 \times 400 = 3,600,000$$

$$11. 8 \times 80,000 = 640,000$$

$$13. 80 \times 7,000 = 560,000$$

$$15. 600 \times 700 = 420,000$$

$$17. 3,000 \times 200 = 600,000$$

$$19. 8 \times 90,000 = 720,000$$

$$21. 6,000 \times 500 = 3,000,000$$

$$2. 50 \times 200 = 10,000$$

$$4. 90 \times 100 = 9,000$$

$$6. 3 \times 6,000 = 18,000$$

$$8. 3,000 \times 5,000 = 15,000,000$$

$$10. 80 \times 500 = 40,000$$

$$12. 600 \times 80 = 48,000$$

$$14. 2 \times 5,000 = 10,000$$

$$16. 90 \times 90,000 = 8,100,000$$

$$18. 40,000 \times 4 = 160,000$$

$$20. 7,000 \times 500 = 3,500,000$$

$$22. 600 \times 30 = 18,000$$

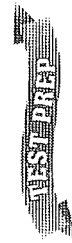
Solve.

23. A craft store has 20 boxes of multicolored beads. There are 80 beads in each box. How many beads does the store have to sell?

$$1,600 \text{ beads}$$

24. A software manufacturer issued three hundred \$50 rebates and two hundred \$30 rebates. What was the total value of the rebates?

$$\$21,000$$



25. Find the product: 5×400 .

Skill 12

- A 200
B 2,000
C 2,400
D 20,000

26. Estimate the sum:

$$320 + 298 + 307 + 292 + 289$$

Skill 6

- F 1,000
G 2,500
H 1,500
J 2,000

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Section B: Multiplying Whole Numbers

SKILL 13: Estimating Products

Student pages 27-28

Name _____ Date _____ Class _____



SKILL 13: Estimating Products

To estimate products, round each factor so that the multiplication is easy.

Example 1

Estimate 398×18 .

398×18 Round 398 to 400.
 $\downarrow \downarrow$ Round 18 to 20.
 $400 \times 20 = 8,000$ Multiply 400×20 .
 An estimate of this product is 8,000.

Example 2

Estimate $5,173 \times 99$.

$5,173 \times 99$ Round 5,173 to 5,000.
 $\downarrow \downarrow$ Round 99 to 100.
 $5,000 \times 100 = 500,000$ Multiply $5,000 \times 100$.
 An estimate of this product is 500,000.

Guided Practice

Estimate each product. Round each factor to make the computation easy.

- 7×37
 $\downarrow \downarrow$
 $7 \times 40 = 280$
- 123×95
 $\downarrow \downarrow$
 $100 \times 100 = 10,000$
- 642×49
 $\downarrow \downarrow$
 $600 \times 50 = 30,000$

Answers may vary. Accept any reasonable estimates.

Estimate each product. Show what numbers you used.

- 89×6
 $\downarrow \downarrow$
 $90 \times 6 = 540$
- 63×170
 $\downarrow \downarrow$
 $60 \times 200 = 12,000$
- 220×99
 $\downarrow \downarrow$
 $200 \times 100 = 20,000$
- 592×786
 $\downarrow \downarrow$
 $600 \times 800 = 480,000$
- 298×31
 $\downarrow \downarrow$
 $300 \times 30 = 9,000$
- 103×482
 $\downarrow \downarrow$
 $100 \times 500 = 50,000$

Name _____ Date _____ Class _____

SKILL 13: Practice

Estimate each product. Round to make the computation easy. Accept any reasonable estimates.

- 9×34
 $\downarrow \downarrow$
 $9 \times 30 = 270$
- 53×8
 $\downarrow \downarrow$
 $50 \times 8 = 400$
- 81×995
 $\downarrow \downarrow$
 $80 \times 1,000 = 80,000$
- 742×51
 $\downarrow \downarrow$
 $700 \times 50 = 35,000$
- 49×61
 $\downarrow \downarrow$
 $50 \times 60 = 3,000$
- $6,319 \times 7$
 $\downarrow \downarrow$
 $6,000 \times 7 = 42,000$
- 98×21
 $\downarrow \downarrow$
 $2,000$
- 720×630
 $\downarrow \downarrow$
 $420,000$
- 449×42
 $\downarrow \downarrow$
 $16,000$
- 309×27
 $\downarrow \downarrow$
 $9,000$
- 199×99
 $\downarrow \downarrow$
 $20,000$
- 117×31
 $\downarrow \downarrow$
 $3,000$
- $211 \times 4,924$
 $\downarrow \downarrow$
 $1,000,000$
- 823×683
 $\downarrow \downarrow$
 $560,000$
- $7 \times 9,545,248$
 $\downarrow \downarrow$
 $70,000,000$

Solve.

- A swimming pool is 28 meters long. Millie swims 21 lengths in the pool. About how many meters does Millie swim?
about 600 m
- Seth needs 23 bolts that are 29¢ each. Estimate the cost of the bolts.
about \$6
- Each baseball cap requires 72 inches of stitching. Estimate the inches of stitching needed for 48 caps.
about 3,500 in.



- Estimate the product: 639×28 .
 A 1,200 B 12,000 C 18,000 D 21,000
 Skill 13
- Which of these numbers is the greatest?
 F 2,899 H 990
 G 3,001 J 1,998
 Skill 3

SKILL 14:

Multiplication by a 1-Digit Multiplier

Student pages 29-30

Name _____ Date _____ Class _____



SKILL 14: Multiplication by a 1-Digit Multiplier

Breaking apart numbers can make them easier to multiply.

Example

Find 348×6 .

Break 348 into hundreds,

tens, and ones.

Multiply each part by 6.

Add.

$$348 = 300 + 40 + 8$$

$$6 \times 8 = 48$$

$$6 \times 40 = 240$$

$$6 \times 300 = 1,800$$

$$6 \times 8 = 48$$

$$6 \times 40 = 240$$

$$6 \times 300 = 1,800$$

$$2,088$$

Estimate to check that your answer is reasonable: $300 \times 6 = 1,800$.

Since 2,088 is close to 1,800, the product is reasonable. So, $348 \times 6 = 2,088$.

Guided Practice

Find each product.

$$1. \ 56 = 50 + 6$$

$$\times 4$$

$$2. \ 601 = 600 + 1$$

$$\times 5$$

$$4 \times 6 = 24$$

$$4 \times 50 = 200$$

$$224$$

$$5 \times 1 = 5$$

$$5 \times 600 = 3,000$$

$$3,005$$

$$3. \ 789 = 700 + 80 + 9$$

$$\times 3$$

$$4. \ 342 = 300 + 40 + 2$$

$$\times 8$$

$$3 \times 9 = 27$$

$$3 \times 80 = 240$$

$$3 \times 700 = 2,100$$

$$2,367$$

$$8 \times 2 = 16$$

$$8 \times 40 = 320$$

$$8 \times 300 = 2,400$$

$$2,736$$

$$5. \ 1,234 = 1,000 + 200 + 30 + 4$$

$$\times 2$$

$$6. \ 3,260 = 3,000 + 200 + 60$$

$$\times 5$$

$$2 \times 4 = 8$$

$$2 \times 30 = 60$$

$$2 \times 200 = 400$$

$$2 \times 1,000 = 2,000$$

$$2,468$$

$$5 \times 60 = 300$$

$$5 \times 200 = 1,000$$

$$5 \times 3,000 = 15,000$$

$$16,300$$

Name _____ Date _____ Class _____

SKILL 14: Practice

Find each product.

$$1. \ 13 \times 3 = 39$$

$$2. \ 24 \times 2 = 48$$

$$3. \ 53 \times 3 = 159$$

$$4. \ 101 \times 6 = 606$$

$$5. \ 304 \times 2 = 608$$

$$6. \ 222 \times 4 = 888$$

$$7. \ 121 \times 4 = 484$$

$$8. \ 304 \times 3 = 912$$

$$9. \ 206 \times 4 = 824$$

$$10. \ 109 \times 6 = 654$$

$$11. \ 232 \times 3 = 696$$

$$12. \ 507 \times 3 = 1,521$$

$$13. \ \$82 \times 3 = \$246$$

$$14. \ \$108 \times 2 = \$216$$

$$15. \ \$403 \times 3 = \$1,209$$

$$16. \ \$321 \times 4 = \$1,284$$

$$17. \ 23 \times 3 = 69$$

$$18. \ 7 \times 11 = 77$$

$$19. \ 31 \times 5 = 155$$

$$20. \ 9 \times 211 = 1,899$$

$$21. \ 410 \times 8 = 3,280$$

$$22. \ 623 \times 3 = 1,869$$

Solve.

23. A school orders 52 books that cost \$4 each. What is the total cost of these books?

$$\$208$$



24. Find the product: 93×2 .

$$A \ 95$$

$$B \ 180$$

$$C \ 186$$

$$D \ 196$$

Skill 14

25. Add: $53 + 106 + 270$.

$$F \ 329$$

$$G \ 450$$

$$H \ 429$$

$$J \ 906$$

Skill 7

SKILL 15: Multiplication with Renaming

Student pages 31–32

Name _____ Date _____ Class _____



SKILL 15: Multiplication with Renaming

You can use renaming to combine steps when you multiply whole numbers.

Example

Multiply: 537×4 .

Multiply the ones.

$4 \times 7 = 28$
 $28 = 2 \text{ tens} + 8 \text{ ones}$

Add the 2 extra tens:

12 tens + 2 tens = 14 tens
14 tens = 1 hundred + 4 tens

$$\begin{array}{r} 2 \\ 537 \\ \times 4 \\ \hline 8 \end{array}$$

Multiply the hundreds.

$4 \times 5 \text{ hundreds} = 20 \text{ hundreds}$
Add the extra hundred:

20 hundreds + 1 hundred =
21 hundreds

$$\begin{array}{r} 12 \\ 537 \\ \times 4 \\ \hline 2,148 \end{array}$$

Estimate to check that your answer is reasonable: $500 \times 4 = 2,000$.
The product is reasonable. So, $537 \times 4 = 2,148$.

Guided Practice

Find each product.

$$\begin{array}{r} 1. \quad 38 \\ \times 5 \\ \hline 190 \end{array}$$

$$\begin{array}{r} 2. \quad 56 \\ \times 8 \\ \hline 448 \end{array}$$

$$\begin{array}{r} 3. \quad 93 \\ \times 4 \\ \hline 372 \end{array}$$

$$\begin{array}{r} 4. \quad 33 \\ \times 3 \\ \hline 99 \end{array}$$

$$\begin{array}{r} 5. \quad 283 \\ \times 5 \\ \hline 1,415 \end{array}$$

$$\begin{array}{r} 6. \quad 2,317 \\ \times 4 \\ \hline 9,268 \end{array}$$

$$\begin{array}{r} 7. \quad 58 \\ \times 7 \\ \hline 406 \end{array}$$

$$\begin{array}{r} 8. \quad 809 \\ \times 8 \\ \hline 6,472 \end{array}$$

$$\begin{array}{r} 9. \quad 661 \\ \times 3 \\ \hline 1,983 \end{array}$$

$$\begin{array}{r} 10. \quad 8,702 \\ \times 2 \\ \hline 17,404 \end{array}$$

Name _____ Date _____ Class _____

SKILL 15: Practice

Find each product.

$$\begin{array}{r} 1. \quad 68 \\ \times 9 \\ \hline 612 \end{array}$$

$$\begin{array}{r} 2. \quad 524 \\ \times 7 \\ \hline 3,668 \end{array}$$

$$\begin{array}{r} 3. \quad 98 \\ \times 4 \\ \hline 392 \end{array}$$

$$\begin{array}{r} 4. \quad 457 \\ \times 6 \\ \hline 2,742 \end{array}$$

$$\begin{array}{r} 5. \quad 85 \\ \times 7 \\ \hline 595 \end{array}$$

$$\begin{array}{r} 6. \quad 512 \\ \times 3 \\ \hline 1,536 \end{array}$$

$$\begin{array}{r} 7. \quad 305 \\ \times 9 \\ \hline 2,745 \end{array}$$

$$\begin{array}{r} 8. \quad 758 \\ \times 5 \\ \hline 3,790 \end{array}$$

$$\begin{array}{r} 9. \quad 453 \\ \times 8 \\ \hline 3,624 \end{array}$$

$$\begin{array}{r} 10. \quad 64 \\ \times 8 \\ \hline 512 \end{array}$$

$$\begin{array}{r} 11. \quad 315 \\ \times 4 \\ \hline 1,260 \end{array}$$

$$\begin{array}{r} 12. \quad 657 \\ \times 9 \\ \hline 5,913 \end{array}$$

$$\begin{array}{r} 13. \quad 1,568 \\ \times 6 \\ \hline 9,408 \end{array}$$

$$\begin{array}{r} 14. \quad 2,305 \\ \times 4 \\ \hline 9,220 \end{array}$$

$$\begin{array}{r} 15. \quad 4,861 \\ \times 8 \\ \hline 38,888 \end{array}$$

$$\begin{array}{r} 16. \quad 5,423 \\ \times 7 \\ \hline 37,961 \end{array}$$

$$\begin{array}{r} 17. \quad 16,093 \\ \times 4 \\ \hline 64,372 \end{array}$$

$$\begin{array}{r} 18. \quad 24,136 \\ \times 9 \\ \hline 217,224 \end{array}$$

$$\begin{array}{r} 19. \quad 10,208 \\ \times 6 \\ \hline 61,248 \end{array}$$

$$\begin{array}{r} 20. \quad 32,156 \\ \times 5 \\ \hline 160,780 \end{array}$$

Solve.

21. Eric needs 4 new tires for his car. The tires he wants cost \$87 each. How much will Eric have to spend for tires? \$348

22. The track is 440 feet long. Renzo ran around the track 9 times. How far did Renzo run? 3,960 ft



23. Find the product: 952×7 .

Skill 15

- A 1,729 C 6,654
B 6,354 D 6,664

24. What is 10,100,000 in word form?
Skill 1

- F ten million one hundred thousand
G ten million one thousand
H ten million one hundred
J ten thousand one hundred

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SKILL 16: Multiplication by a 2-Digit Multiplier

Student pages 33-34

Name _____ Date _____ Class _____



SKILL 16: Multiplication by a 2-Digit Multiplier

Renaming can help you multiply whole numbers.

Example

Multiply: 52×185 . Think of 52 as $50 + 2$.

Multiply 2×185 .

$$\begin{array}{r} 11 \\ 185 \\ \times 2 \\ \hline 370 \end{array}$$

Add.

$$\begin{array}{r} 42 \\ 11 \\ 185 \\ \times 52 \\ \hline 9250 \\ 370 \\ \hline 9620 \end{array}$$

Write a 0.
Then multiply
 5×185 .

Estimate to check that your answer is reasonable: $50 \times 200 = 10,000$.
The product is reasonable. $52 \times 185 = 9,620$.

Guided Practice

Find each product.

$$\begin{array}{r} 1 \\ 35 \\ \times 18 \\ \hline 280 \\ 350 \\ \hline 630 \end{array}$$

$$\begin{array}{r} 2 \\ 1 \\ 37 \\ \times 25 \\ \hline 185 \\ 740 \\ \hline 925 \end{array}$$

$$\begin{array}{r} 3 \\ 2 \\ 87 \\ \times 41 \\ \hline 87 \\ 3480 \\ \hline 3567 \end{array}$$

$$\begin{array}{r} 4 \\ 331 \\ \times 24 \\ \hline 1324 \\ 6620 \\ \hline 7944 \end{array}$$

$$\begin{array}{r} 5 \\ 111 \\ \times 32 \\ \hline 222 \\ 3330 \\ \hline 3542 \end{array}$$

$$\begin{array}{r} 6 \\ 2174 \\ \times 13 \\ \hline 6522 \\ 21740 \\ \hline 28262 \end{array}$$

Name _____ Date _____ Class _____

SKILL 16: Practice

Find each product.

$$\begin{array}{r} 1. \quad 66 \\ \times 29 \\ \hline 1,914 \end{array}$$

$$\begin{array}{r} 2. \quad 95 \\ \times 56 \\ \hline 5,320 \end{array}$$

$$\begin{array}{r} 3. \quad 73 \\ \times 45 \\ \hline 3,285 \end{array}$$

$$\begin{array}{r} 5. \quad 115 \\ \times 39 \\ \hline 4,485 \end{array}$$

$$\begin{array}{r} 6. \quad 324 \\ \times 19 \\ \hline 6,156 \end{array}$$

$$\begin{array}{r} 7. \quad 565 \\ \times 24 \\ \hline 13,560 \end{array}$$

$$\begin{array}{r} 8. \quad 683 \\ \times 37 \\ \hline 25,271 \end{array}$$

$$\begin{array}{r} 9. \quad 333 \\ \times 99 \\ \hline 32,967 \end{array}$$

$$\begin{array}{r} 10. \quad 309 \\ \times 24 \\ \hline 7,416 \end{array}$$

$$\begin{array}{r} 11. \quad 4,021 \\ \times 37 \\ \hline 148,777 \end{array}$$

$$\begin{array}{r} 12. \quad 375 \\ \times 58 \\ \hline 21,750 \end{array}$$

$$\begin{array}{r} 13. \quad 2,341 \\ \times 53 \\ \hline 124,073 \end{array}$$

$$\begin{array}{r} 14. \quad 436 \\ \times 87 \\ \hline 37,932 \end{array}$$

$$\begin{array}{r} 15. \quad 2,463 \\ \times 24 \\ \hline 59,112 \end{array}$$

$$\begin{array}{r} 16. \quad 792 \\ \times 36 \\ \hline 28,512 \end{array}$$

Solve.

17. Large trucks need 18 tires. How many tires would be needed for 93 trucks?

1,674 tires

18. There are 24 hours in a day, and 31 days in the month of August. How many hours are in the month of August?

744 hr



19. Find the product: 428×36 .

Skill 16

- A 3,852 C 15,068
B 8,844 D 15,408

20. Estimate the product: $3,701 \times 8$.

Skill 13

- F 21,000 H 32,000
G 24,000 J 40,000

SKILL 17:

Multiplication by a 3-Digit Multiplier

Student pages 35-36

Name _____ Date _____ Class _____



SKILL 17: Multiplication by a 3-Digit Multiplier

You can write a 3-digit number in expanded form to help you multiply by a 3-digit multiplier.

Example

Multiply: 648×532 .

$$\begin{array}{r} 532 \\ \times 648 \\ \hline 4256 \leftarrow 8 \times 532 \\ 21280 \leftarrow 40 \times 532 \\ 319200 \leftarrow 600 \times 532 \\ \hline 344,736 \end{array}$$

Think: $648 = 600 + 40 + 8$

4256 $\leftarrow 8 \times 532$
 21280 $\leftarrow 40 \times 532$. Write a 0. Then multiply 4×532 .
 319200 $\leftarrow 600 \times 532$. Write two 0s. Then multiply 6×532 .
 344,736 $\leftarrow$ Add the partial products to find the final answer.

Estimate the product to see if that the answer is reasonable: $600 \times 500 = 300,000$.

Guided Practice

Find each product.

- $$\begin{array}{r} 126 \\ \times 243 \\ \hline \end{array}$$
- $$\begin{array}{r} 328 \\ \times 415 \\ \hline \end{array}$$
- $$\begin{array}{r} 346 \\ \times 234 \\ \hline \end{array}$$
- $$\begin{array}{r} 283 \\ \times 567 \\ \hline \end{array}$$
- $$\begin{array}{r} 617 \\ \times 345 \\ \hline \end{array}$$

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Section B: Multiplying Whole Numbers

Whole Numbers 35

Name _____ Date _____ Class _____

SKILL 17: Practice

Find each product.

$$\begin{array}{r} 1. \quad 638 \\ \times 244 \\ \hline 155,672 \end{array}$$

$$\begin{array}{r} 2. \quad 861 \\ \times 109 \\ \hline 93,849 \end{array}$$

$$\begin{array}{r} 3. \quad 526 \\ \times 320 \\ \hline 168,320 \end{array}$$

$$\begin{array}{r} 4. \quad 814 \\ \times 517 \\ \hline 420,838 \end{array}$$

$$\begin{array}{r} 5. \quad 249 \\ \times 816 \\ \hline 203,184 \end{array}$$

$$\begin{array}{r} 6. \quad 426 \\ \times 862 \\ \hline 367,212 \end{array}$$

$$\begin{array}{r} 7. \quad 754 \\ \times 230 \\ \hline 173,420 \end{array}$$

$$\begin{array}{r} 8. \quad 153 \\ \times 168 \\ \hline 25,704 \end{array}$$

$$\begin{array}{r} 9. \quad 209 \\ \times 234 \\ \hline 48,906 \end{array}$$

$$\begin{array}{r} 10. \quad 629 \\ \times 513 \\ \hline 322,677 \end{array}$$

$$\begin{array}{r} 11. \quad 623 \\ \times 428 \\ \hline 266,644 \end{array}$$

$$\begin{array}{r} 12. \quad 852 \\ \times 109 \\ \hline 92,868 \end{array}$$

Solve.

13. A farmer is shipping 358 boxes of potatoes. Each box weighs 125 pounds. What is the total weight of the shipment?

$$\underline{44,750 \text{ lb}}$$

14. A regular deck of cards has 52 cards. A carton contains 144 decks. How many cards are there in two full cartons?

$$\underline{14,976 \text{ cards}}$$



15. Find the product: 453×236 .

Skill 17

- A 4,983 C 105,808
B 13,077 D 106,908

16. Find the difference:
 $20,304 - 6,596$.

Skill 8

- (F) 13,708 H 26,292
G 14,718 J 26,900

36 Whole Numbers

Section B: Multiplying Whole Numbers

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SKILL 18: Multiplying Three Factors

Student pages 37–38

Name _____ Date _____ Class _____



SKILL 18: Multiplying Three Factors

When you need to multiply 3 or more factors together, you can sometimes simplify the problem by changing the grouping of the factors. According to the **associative property** for multiplication, regrouping the factors does not change their product.

Example 1

Find $9 \times 20 \times 5$ by grouping in two ways.

a. $(9 \times 20) \times 5 =$
 $(180) \times 5 = 900$

b. $9 \times (20 \times 5) =$
 $9 \times (100) = 900$

Notice the two products are the same, so $(9 \times 20) \times 5 = 9 \times (20 \times 5)$. Remember, you can also change the order of the factors by using the commutative property for multiplication.

Example 2

Find $4 \times (7 \times 25)$. Change the order and the grouping of the factors to make multiplication easier.

$4 \times (7 \times 25)$
 $= 4 \times (25 \times 7)$ The commutative property allows the order change.
 $= (4 \times 25) \times 7$ The associative property allows the grouping change.
 $= 100 \times 7 = 700$

Guided Practice

Write the property that allows each step of the multiplication problem.

1. $2 \times (13 \times 5) = 2 \times (5 \times 13)$ Commutative property
 $= (2 \times 5) \times 13$ associative property
 $2. 4 \times (7 \times 25) = (7 \times 25) \times 4$ commutative property
 $= 7 \times (25 \times 4)$ associative property

Multiply.

3. $(7 \times 5) \times 40 =$
 $7 \times (5 \times 40) =$
 $7 \times 200 = 1,400$
 $5. 8 \times (10 \times 3) =$
 $8 \times 30 = 240$
 $7. 50 \times (4 \times 2) =$
 $50 \times 8 = 400$
 $4. 100 \times (30 \times 7) =$
 $100 \times (30 \times 7) =$
 $3,000 \times 7 = 21,000$
 $6. 30 \times (40 \times 5) =$
 $30 \times 200 = 6,000$
 $8. (8 \times 70) \times 10 =$
 $560 \times 10 = 5,600$

Section B: Multiplying Whole Numbers

Whole Numbers 37

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SKILL 18: Practice

Find each product.

1. $(3 \times 9) \times 4 =$ 108

2. $60 \times (7 \times 8) =$ 3,360

3. $(12 \times 3) \times 7 =$ 252

4. $4 \times (80 \times 60) =$ 19,200

5. $7 \times (26 \times 4) =$ 728

6. $(13 \times 5) \times 2 =$ 130

7. $900 \times (7 \times 6) =$ 37,800

8. $40 \times (71 \times 3) =$ 8,520

9. $(25 \times 5) \times 30 =$ 3,750

10. $(7 \times 30) \times 90 =$ 18,900

11. $50 \times (15 \times 120) =$ 90,000

12. $(125 \times 4) \times 80 =$ 40,000

13. $13 \times 42 \times 7$
3,822

14. $900 \times 8 \times 12$
86,400

15. $40 \times 90 \times 70$
252,000

16. $25 \times 14 \times 32$
11,200

17. $21 \times 23 \times 15$
7,245

18. $20 \times 36 \times 15$
10,800

19. $2,000 \times 5 \times 18$
180,000

20. $35 \times 60 \times 12$
25,200

21. $750 \times 2 \times 30$
45,000

Solve.

22. Greg made 23 of his super-sized pizzas each day for a week. He cut the pizzas into 24 slices. How many slices did he make in the week?

3,864 slices

23. There are 25 pencils in one bag and 10 bags in one box. If there are 4 boxes, how many pencils are there in all?

1,000 pencils



24. Find the product: $20 \times 3 \times 50$.
Skill 18

- A 110 C 600
B 300 D 3,000

25. Find the product: 82×63 .
Skill 16

- F 738 H 5,066
G 4,166 J 5,166

Section B: Multiplying Whole Numbers

Whole Numbers 37

SKILL 19:

Using Mental Math to Multiply

Student pages 39-40

Name _____ Date _____ Class _____



SKILL 19: Using Mental Math to Multiply

You can often find products mentally by using the distributive property.

Example 1

Multiply: 2×126 .

Rewrite 126 as $120 + 6$.

$$\begin{aligned} 2 \times 126 &= 2 \times (120 + 6) \\ &= (2 \times 120) + (2 \times 6) \\ &= 240 + 12 \\ &= 252 \end{aligned}$$

Example 2

Multiply: 98×63 .

$$\begin{aligned} 98 \times 63 &= 63 \times 98 \\ &= 63 \times (100 - 2) \\ &= (63 \times 100) - (63 \times 2) \\ &= 6300 - 126 \\ &= 6,174 \end{aligned}$$

Guided Practice

Use the distributive property to complete each multiplication problem.

$$\begin{aligned} 1. \quad 3 \times 14 &= 3 \times (\underline{10} + \underline{4}) \\ &= (3 \times \underline{10}) + (3 \times \underline{4}) \\ &= \underline{30} + \underline{12} \\ &= \underline{42} \end{aligned}$$

$$\begin{aligned} 2. \quad 8 \times 59 &= 8 \times (\underline{60} - \underline{1}) \\ &= (\underline{8} \times \underline{60}) - (\underline{8} \times \underline{1}) \\ &= \underline{480} - \underline{8} \\ &= \underline{472} \end{aligned}$$

$$\begin{aligned} 3. \quad 253 \times 4 &= 4 \times (\underline{250} + \underline{3}) \\ &= (4 \times \underline{250}) + (4 \times \underline{3}) \\ &= \underline{1,000} + \underline{12} \\ &= \underline{1,012} \end{aligned}$$

$$\begin{aligned} 4. \quad 391 \times 2 &= 2 \times (\underline{400} - \underline{9}) \\ &= (\underline{2} \times \underline{400}) - (\underline{2} \times \underline{9}) \\ &= \underline{800} - \underline{18} \\ &= \underline{782} \end{aligned}$$

$$\begin{aligned} 5. \quad 56 \times 8 &= \underline{8} \times (\underline{50} + \underline{6}) \\ &= \underline{400} + \underline{48} \\ &= \underline{448} \end{aligned}$$

$$\begin{aligned} 6. \quad 155 \times 3 &= \underline{3} \times (\underline{150} + \underline{5}) \\ &= \underline{450} + \underline{15} \\ &= \underline{465} \end{aligned}$$

$$\begin{aligned} 7. \quad 101 \times 5 &= \underline{5} \times (\underline{100} + \underline{1}) \\ &= \underline{500} + \underline{5} \\ &= \underline{505} \end{aligned}$$

$$\begin{aligned} 8. \quad 298 \times 4 &= \underline{4} \times (\underline{300} - \underline{2}) \\ &= \underline{1,200} - \underline{8} \\ &= \underline{1,192} \end{aligned}$$

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Name _____ Date _____ Class _____

SKILL 19: Practice

Find each product. Use mental math wherever possible.

$$1. \quad 32 \times 9 = \underline{288}$$

$$2. \quad 304 \times 8 = \underline{2,432}$$

$$3. \quad 5 \times 801 = \underline{4,005}$$

$$4. \quad 698 \times 3 = \underline{2,094}$$

$$5. \quad 6 \times 703 = \underline{4,218}$$

$$6. \quad 2 \times 599 = \underline{1,198}$$

$$7. \quad 801 \times 9 = \underline{7,209}$$

$$8. \quad 597 \times 7 = \underline{4,179}$$

$$9. \quad 697 \times 3 = \underline{2,091}$$

$$10. \quad 40 \times 89 = \underline{3,560}$$

$$11. \quad 79 \times 12 = \underline{948}$$

$$12. \quad 298 \times 11 = \underline{3,278}$$

$$13. \quad 29 \times 4 = \underline{116}$$

$$14. \quad 42 \times 8 = \underline{336}$$

$$15. \quad 1,001 \times 8 = \underline{8,008}$$

$$16. \quad 347 \times 28 = \underline{9,716}$$

Solve.

17. Bike helmets cost \$39 each. How much would it cost to buy a helmet for each of the 400 students at the Roscoe Bike School?

$$\underline{\$15,600}$$

18. Claudia has 8 boxes of trading cards. There are 52 cards in each box. How many trading cards does Claudia have?

$$\underline{416 \text{ trading cards}}$$



19. Which can be used to find the product: 6×498 ?

Skill 19

A $(6 \times 500) + (6 \times 2)$

B $(6 \times 500) - 2$

☒ C $(6 \times 500) - (6 \times 2)$

D $500 - 2 \times 6$

20. Find the product: $30 \times 16 \times 20$.

Skill 18

F 960

G 5,460

H 6,000

☒ J 9,600

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SKILL 20: PROBLEM SOLVING: Deciding When to Add, Subtract, or Multiply

Student pages 41-42

Name _____

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SKILL 20: PROBLEM SOLVING: Deciding When to Add, Subtract, or Multiply

When solving word problems involving addition, subtraction, or multiplication, it is important to know which operation to use.

Example

Sam pours 1 cup of milk on his cereal every morning. He decided to switch from whole milk to skim milk. How many calories will he save in a year (365 days)?

Read There are 150 calories in 1 cup of whole milk and 85 calories in 1 cup of skim milk.

You need to find the number of calories saved in a year.

Plan Subtract to find how many more calories whole milk has than skim milk. Once you know the number saved for 1 day, you multiply to find the number for 365 days.

Solve Subtract.

$$\begin{array}{r} 150 \text{ calories in whole milk} \\ - 85 \text{ calories in skim milk} \\ \hline 65 \text{ calories less} \end{array}$$

Multiply.

$$\begin{array}{r} 65 \text{ days in a year} \\ \times 65 \text{ calories less per day} \\ \hline 1825 \text{ calories saved in a year} \\ 21900 \\ \hline 23,725 \end{array}$$

Look Back See that your answer makes sense.

Estimate: If you saved 70 calories a day for 400 days, you would save 28,000 calories. Since you rounded both numbers up, it makes sense that your estimate is greater than your answer.

Guided Practice

Kylah had 4 fish sticks, 3 carrots, an apple, and 1 cup of skim milk.

- How many calories are in 4 fish sticks? 280 calories
- How many calories are in 3 carrots? 90 calories
- How many calories are in an apple? 80 calories
- How many calories are in 1 cup of skim milk? 85 calories
- Find the total number of calories this meal contains. 535 calories

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Name _____

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SKILL 20: Practice

Use the table at the right to solve each problem.

- Clare walked 3 miles on Monday, 2 miles on Wednesday, and 4 miles on Friday. How many calories did she burn on her walks that week?
675 calories

- David shoots baskets for an hour each day. Tom bicycles each day for an hour. Whose activity burns more calories? How many more?
Tom's: 300 more calories

Calories Burned During Exercise		
Activity	Time	Calories
Walking 1 mi	15 min	75
Bicycling 4 mi	15 min	150
Shooting baskets	10 min	50
Swimming laps	30 min	225

- Angie swam laps for 30 min, then bicycled for 30 min. Barbara swam laps for the whole hour. Who burned more calories? How many more?
Angie; 75 more calories

- Carol wants to burn 1,000 calories a week exercising. During one week, she walked 5 miles, bicycled 8 miles, and shot baskets for an hour. Did she reach her goal? By how much did she beat or miss her goal?
No; missed by 25 calories

- Greg wants to exercise each day for an hour. Doing which of the activities burns the most calories in an hour? The least?
Bicycling; walking

- If Greg chooses to shoot baskets for an hour five days a week, how many calories will he burn in a year (52 weeks)?
78,000 calories



- CDs are on sale for \$12 each. The regular price is \$15 each. Irene buys 6 CDs on sale. How much money does she save?
\$18

- Rebecca's Newsstand started the day with 546 magazines. That day she sold 247 of the magazines. How many magazines were left?
299

- A \$3
B \$18
C \$27
D \$72

- F 301
G 299
H 399
J 793

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