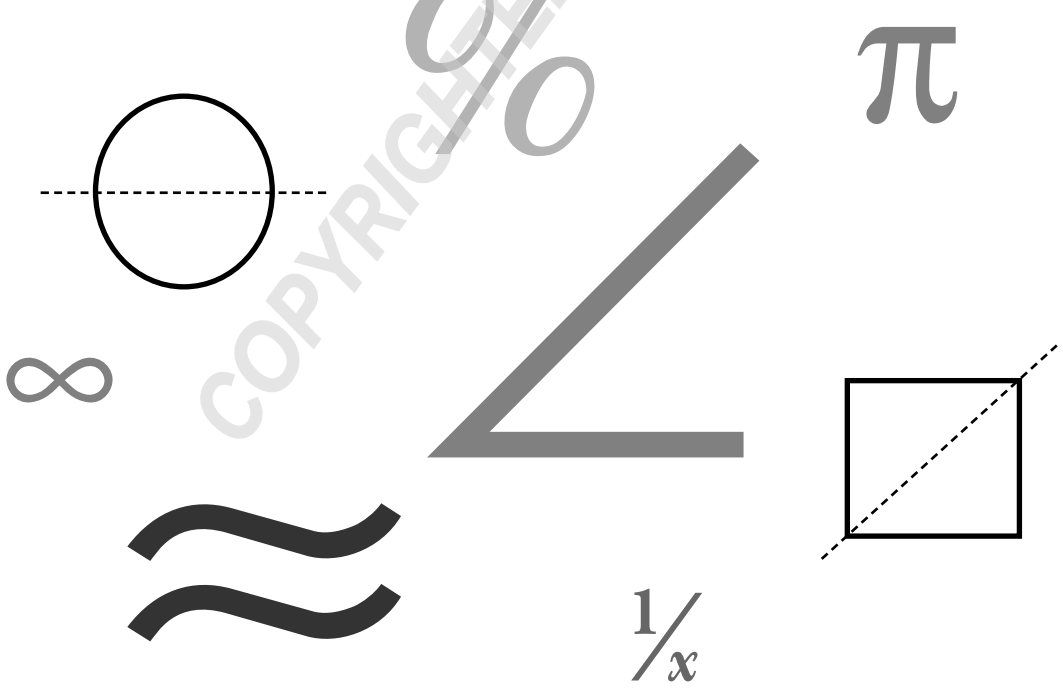
Section 1

WHOLE NUMBERS



NAME _____ DATE _____

1–1 THERE'S A PLACE FOR EVERYTHING

Find each sum, difference, product, or quotient. Then circle the indicated place in your answer. The numbers you circle in your answers should be a digit from 0 to 9. Each odd digit should appear twice in the circled numbers, and each even digit should appear only once.

1.	$345 + 296 =$ _____	Tens place
2.	$531 - 456 =$ _____	Tens place
3.	$326 \times 82 - 3{,}164 =$ _____	Thousands place
4.	$801 \times 39 =$ _____	Hundreds place
5.	$684 \div 36 =$ _____	Ones place
6.	$3{,}015 - 498 =$ _____	Hundreds place
7.	$4{,}079 \times 86 =$ _____	Tens place
8.	$34 + 30 + 69 + 128 =$ _____	Tens place
9.	$7{,}560 \div 35 \times 79 =$ _____	Thousands place
10.	$305 \times 602 =$ _____	Ones place
11.	$100 \times 74 \div 10 \times 427 =$ _____	Ten thousands place
12.	$687 - 488 =$ _____	Hundreds place
13.	$5{,}490 \div 305 =$ _____	Ones place
14.	$148 \times 379 =$ _____	Ten thousands place
15.	$32{,}886 \div 9 =$ _____	Thousands place

NAME DATE

1–2 FINDING MISSING NUMBERS

Find the missing numbers so that each group of problems has the same answer.

Group 1

$$\begin{array}{r} 15 \\ +\ \square \\ \hline 52 \end{array} \qquad \begin{array}{r} 74 \\ -\ \square \\ \hline 52 \end{array} \qquad \begin{array}{r} \square \\ \times\ 2 \\ \hline 52 \end{array} \qquad \square\overline{)156} \quad 52$$

Group 2

$$\begin{array}{r} \square \\ +\ 98 \\ \hline 315 \end{array} \qquad \begin{array}{r} \square \\ -\ 607 \\ \hline 315 \end{array} \qquad \begin{array}{r} 15 \\ \times\ \square \\ \hline 315 \end{array} \qquad 2\overline{)\square} \quad 315$$

Group 3

$$\begin{array}{r} 738 \\ +\ \square \\ \hline 1{,}085 \end{array} \qquad \begin{array}{r} \square \\ -\ 263 \\ \hline 1{,}085 \end{array} \qquad \begin{array}{r} 35 \\ \times\ \square \\ \hline 1{,}085 \end{array} \qquad \square\overline{)5{,}425} \quad 1{,}085$$

NAME DATE

1–3 FINDING THE LARGEST AND SMALLEST

Use the numbers below to fill in each box according to the directions given.

2 3 4 6 8 9

Find the largest odd sum.

1. $\square\square + \square\square$

2. $\square\square\square + \square\square$

Find the smallest difference. It must be larger than zero.

3. $\square\square - \square\square$

4. $\square\square\square - \square\square$

Find the largest product.

5. $\square\square \times \square\square$

6. $\square\square\square \times \square\square$

Find the smallest product.

7. $\square\square \times \square\square$

8. $\square\square\square \times \square\square$

Find the smallest quotient. It must be a whole number with no remainder.

9. $\square\overline{)\square\square\square}$

Find the largest quotient. It must be a whole number with no remainder.

10. $\square\overline{)\square\square\square}$

NAME DATE

1–4 A NUMBER CHAIN

Follow the directions of each number chain. Write your answers in the spaces provided.

1. Start with 26. Multiply by 13; add 222; divide by 16; multiply by 18; divide by 9; multiply by 56; subtract 392; divide by 126; subtract 2. _____

2. Start with 706. Subtract 398; add 25; divide by 111; multiply by 98; divide by 42; multiply by 128; divide by 56; multiply by 98; subtract 1,492. _____

3. Think of a three-digit number. Write it here. _____ Multiply it by 3; add 18; multiply by 4; subtract 6; divide by 6; multiply by 8; add 8; divide by 16; subtract 6. _____
   How does your answer compare to your original number? _____
   _____

4. Think of a four-digit number. Write it here. _____ Double the number; add 10; multiply by 12; divide by 8; multiply by 9; add 189; divide by 27; subtract 13. _____
   How does your answer compare to your original number? _____
   _____

NAME DATE

1–5 WHICH IS GREATER?

Find all the sums, differences, products, or quotients for the problems in columns A and B. Write your answers in the spaces provided. Compare the answers in both columns for each problem, and circle the larger answer. Then follow the special directions for problems 11 through 13.

	Column A	**Column B**
1.	$85 \times 89 =$ _____	$86 \times 88 =$ _____
2.	$312 \times 57 =$ _____	$302 \times 67 =$ _____
3.	$1{,}704 + 3{,}060 =$ _____	$1{,}086 + 3{,}704 =$ _____
4.	$3{,}079 - 2{,}076 =$ _____	$3{,}790 - 2{,}767 =$ _____
5.	$83 + 124 + 764 =$ _____	$384 + 345 + 96 =$ _____
6.	$8{,}424 \div 39 =$ _____	$8{,}232 \div 42 =$ _____
7.	$36 \times 89 =$ _____	$52 \times 68 =$ _____
8.	$316 - 89 =$ _____	$328 - 109 =$ _____
9.	$1{,}445 \div 17 =$ _____	$1{,}596 \div 19 =$ _____
10.	$1{,}007 - 447 =$ _____	$987 - 394 =$ _____

11. Round the answers you have circled in column A to the nearest ten. Estimate the sum.

12. Round each answer you have circled in column B to the nearest hundred. Estimate the sum.

13. Complete: "My answer to number 12 is about _____ times my answer to number 11."

NAME DATE

1–6 THE TRIO ROUNDS TO . . .

In each of the following sets of numbers, three of the numbers can be rounded to the same number. One cannot. Circle the three numbers that can be rounded to the same number, and write your answers in the spaces provided.

		Rounded Number
1.	15 24 18 25	_____
2.	158 175 149 151	_____
3.	12 9 15 8	_____
4.	254 284 309 365	_____
5.	991 943 985 989	_____
6.	550 1,755 1,358 1,059	_____
7.	750 801 907 843	_____
8.	3,481 3,505 3,516 3,416	_____
9.	1,850 2,459 1,999 2,501	_____
10.	2,497 2,479 2,551 2,515	_____

NAME DATE

1–7 A FACT ABOUT YOU

Answer each question and find your answer in the Answer Bank. Write the letter of your answer in the space provided before each problem. Then read down the column to discover a fact that applies to you. Some answers will be used more than once; some answers will not be used.

1. _____ It has the fewest factors of any number.
2. _____ It is the smallest number that has only two factors.
3. _____ This one-digit number has the same number of factors as the number 6.
4. _____ It is the smallest number that has six factors.
5. _____ It is the smallest three-digit perfect square.
6. _____ It is the smallest three-digit number that has only two factors.
7. _____ It is the largest two-digit perfect square that has three factors.
8. _____ It is the smallest three-digit perfect square that has nine factors.
9. _____ The factors of this number are 1, 2, 3, 4, 6, and 12.
10. _____ This perfect square is the same as a gross.
11. _____ It is a factor of half of all the numbers.
12. _____ It is the smallest perfect square that has nine factors.

Answer Bank

D. 121	N. 101	E. 16	K. 90	F. 49
U. 8	Y. 1	C. 12	O. 2	M. 80
B. 9	R. 36	T. 144	S. 4	A. 100

NAME DATE

1–8 WHO AM I?

Answer the questions. Write your answers in the spaces provided.

1. I am the largest one-digit prime number. _____

2. I am the smallest two-digit prime number. _____

3. I have only one factor. _____

4. I am the only even prime number. _____

5. I am the largest two-digit prime number. _____

6. The number 59 and I are the only two prime numbers between 50 and 60. _____

7. If I am the units digit of any number, then the number is divisible by 10. _____

8. I am not the number 1, but I am a factor of 60 and 35. _____

9. I am a one-digit number. If you add all of my factors, the sum equals 12. _____

10. I am the largest one-digit number that has only three factors. _____

11. I am the first prime number after 100. _____

12. I am the largest composite number before 100. _____

NAME _____ DATE _____

1–9 WHICH ONE DOES NOT BELONG?

In each set of numbers, one number does not belong. Circle this number and explain why it does not belong with the others. (Consider such things as primes, composites, factors, and even spelling!) Then replace the number that does not belong with a number that does.

1. 2, 4, 7, 10 _____

   _____

2. 3, 5, 7, 9 _____

   _____

3. 12, 20, 26, 38 _____

   _____

4. 3, 4, 6, 9 _____

   _____

5. 2, 6, 12, 20 _____

   _____

6. 15, 20, 35, 85 _____

   _____

7. 9, 16, 20, 25 _____

   _____

8. 313, 1001, 111, 1313 _____

   _____

9. 3, 13, 31, 47 _____

   _____

10. 28, 30, 31, 32 _____

    _____

NAME DATE

1–10 CROSS NUMBER PUZZLE: WHOLE NUMBERS

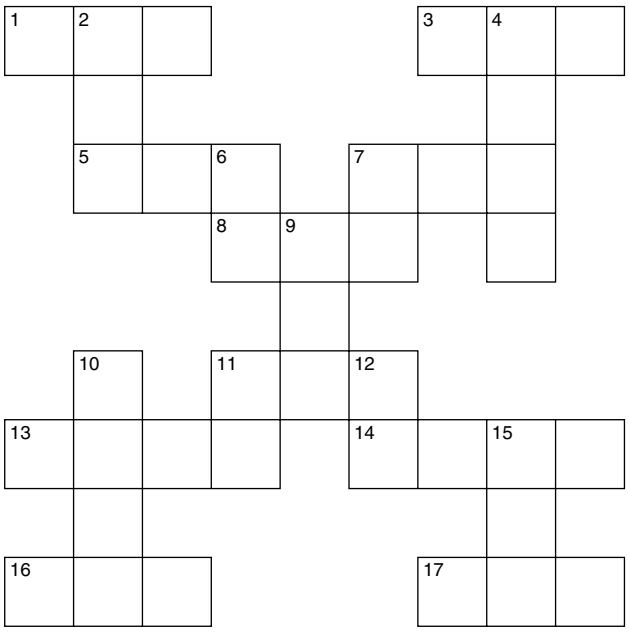
Use the following clues to solve the puzzle.

Across

1. 36 + 98
3. 6 less than item 1 Across
5. The product of 76 and 4
7. 3,690 divided by 5
8. 29 less than a thousand
11. The largest palindrome less than 900
13. $5 \times 10^3 + 2 \times 10^2 + 8 \times 10^1 + 7 \times 10^0$
14. 16 less than item 13 Across
16. 8×10^2
17. 52 times the largest prime number that is less than 20

Down

2. The next odd number after 301
4. 38 times 76
6. 7 squared
7. The next prime number after 67
9. 1,287 – 548
10. 369 + 584 + 287
11. 3,132 ÷ 36
12. 340 ÷ 4
15. The product of 118 and 6



NAME DATE

1–11 THE POWERS OF PRIMES

Use the prime numbers 2, 3, 5, 7, and 11. Choose a base and an exponent from these numbers to equal the number in each problem. The first problem is done for you.

Work Space

1. $25 = 5^2$
2. $8 =$ _____
3. $27 =$ _____
4. $32 =$ _____
5. $49 =$ _____
6. $125 =$ _____
7. $4 =$ _____
8. $9 =$ _____
9. $343 =$ _____
10. $243 =$ _____
11. $121 =$ _____
12. $2{,}048 =$ _____

NAME DATE

1–12 CUBES AND SQUARES

Find the numbers related to squares and cubes.

1. Find the only one-digit number that is both a square number and a cubic number. _____
2. Find the only two-digit number that is both a square number and a cubic number. _____
3. Find the only three-digit number that is both a square number and a cubic number. _____
4. Find a two-digit number that is one more than a square number and one less than a cubic number. _____
5. Find the smallest two-digit square number that can be written as the sum of two square numbers. _____
6. Find the smallest three-digit square number that is the sum of two square numbers. _____
7. Find the only one-digit number that can be written as the sum of two different cubic numbers. _____
8. Find the smallest two-digit number that can be written as the sum of two cubic numbers. _____
9. Find the largest two-digit number that can be written as the sum of two different cubic numbers. _____
10. Find a two-digit number that is one less than a square number, and when doubled is one less than a square number. _____

NAME DATE

1–13 AN EXPONENTIAL TYPO

In the equations below, every exponent that should have been raised was instead placed on the line by a careless typist. All of the other symbols are correct. Circle the exponent, or exponents, in each equation that should have been raised in order to correct the equation. Then rewrite the equations correctly.

Work Space

1. $23 + 74 = 82$

2. $92 - (3 + 6)2 = 11$

3. $24 \div 23 = 2$

4. $(3 + 5)2 - 62 - 7 \times 22 = 0$

5. $52 = 16 + 24$

6. $23 \div 4 = 21$

7. $24 = 6 \times 22 - 23$

8. $36 + 82 = 102$

9. $32 = 20 + 23$

10. $42 + 36 - 70 = 77$

NAME DATE

1–14 EUCLID AND THE GCF

More than two thousand years ago, Euclid, the Greek mathematician, devised a method to find the GCF (greatest common factor) of two numbers. You can use this method today. Just follow these steps:

1. **Divide the larger number by the smaller number.**
2. **Divide the smaller number by the remainder in the first step.**
3. **Repeat this process until there is no remainder.**
4. **The last divisor is the GCF of the original numbers.**

Here is an example. Find the GCF of 224 and 78. Follow Euclid's steps:

1. **Divide 224 by 78. The answer is 2 R68.**
2. **Divide 78 by 68. The answer is 1 R10.**
3. **Divide 68 by 10. The answer is 6 R8.**
4. **Divide 10 by 8. The answer is 1 R2.**
5. **Divide 8 by 2. The answer is 4; 2 is the GCF.**

Use Euclid's method to find the GCF of each pair of numbers.

1. 105, 27 GCF = _____
2. 40, 27 GCF = _____
3. 84, 72 GCF = _____
4. 98, 134 GCF = _____
5. 51, 217 GCF = _____
6. 105, 78 GCF = _____
7. 82, 96 GCF = _____
8. 333, 96 GCF = _____
9. 150, 215 GCF = _____
10. 240, 179 GCF = _____

NAME DATE

1–15 FINDING THE LCM USING THE GCF

A way to find the LCM (least common multiple) of two or more numbers is to find the product of the numbers and then divide the product by the GCF (greatest common factor). Use this method to find the LCM of each group of numbers below.

Work Space

1. 36, 80 LCM = _____

2. 24, 86 LCM = _____

3. 70, 45 LCM = _____

4. 54, 64 LCM = _____

5. 93, 60 LCM = _____

6. 62, 88 LCM = _____

7. 49, 27 LCM = _____

8. 38, 46 LCM = _____

9. 12, 45, 63 LCM = _____

10. 56, 12, 16 LCM = _____

NAME DATE

1–16 THE MISSING SYMBOLS

Place addition, subtraction, multiplication, or division signs to make each expression correct. For some equations, you may also need to insert parentheses. Write the revised equations in the work space.

Work Space

1. 8 2 6 3 = 14

2. 3 2 6 4 = 32

3. 16 4 6 1 = 10

4. 9 8 3 2 = 7

5. 3 3 2 3 = 1

6. 12 3 2 2 = 0

7. 7 4 1 3 = 9

8. 1 8 6 3 = 1

9. 15 5 3 7 = 2

10. 15 3 4 8 = 11

NAME DATE

1–17 WHAT A MIX-UP!

The problems below are missing their problem numbers and are out of order. Solve the problems, and write the correct problem number before each. (Remember to follow the order of operations.)

Work Space

_____ $9 + 5 - (1 + 4)$

_____ $10 \div 2 + 8 \div 4$

_____ $10 \div (2 + 8) + 3$

_____ $4 \times 2 - 3 \times 1$

_____ $(4 + 3 \times 2) \div 5$

_____ $8 - 1 \times 5 + 7$

_____ $10 - (8 + 1) + 5$

_____ $2(3 + 4) - 4 \times 3 - 1$

_____ $2(3 + 4) - (4 \times 3 - 1)$

_____ $10 - 2 \times 4 + 6(9 - 8)$

NAME DATE

1–18 A PERFECT 10

Using the digits 2, 4, 6, and 8, create equations with answers ranging from 1 to 10. You may use addition, subtraction, multiplication, and division. You may also use parentheses. You must use each digit once (and only once!) in each problem.

Here is an example: $1 = (8 - 4) \div (6 - 2)$. Start by finding an equation of your own to equal 1, and then continue.

1 = _____

2 = _____

3 = _____

4 = _____

5 = _____

6 = _____

7 = _____

8 = _____

9 = _____

10 = _____

NAME DATE

1–19 NOT-SO-FAMOUS FIRSTS FOR PRESIDENTS

Simplify the expression beneath the name of the president, and write your answer in the space provided. Match your answers to the numbers in the Fact Bank to learn an interesting fact about these men.

1. John Adams
   $13 - 4 \times 2 =$ _____
2. John Quincy Adams
   $(8 - 3) \times 5 =$ _____
3. Martin Van Buren
   $6 + 3 \times 4 =$ _____
4. William Henry Harrison
   $28 - 3 \times 5 =$ _____
5. John Tyler
   $(8 + 4) \div 4 =$ _____
6. Millard Fillmore
   $13 \times 2 - 3 \times 4 =$ _____
7. Abraham Lincoln
   $(9 + 4) \times 2 =$ _____
8. Grover Cleveland
   $40 \div 2 \times 4 - 3 =$ _____
9. William H. Taft
   $7 + 9 \times 3 + 2 =$ _____
10. Woodrow Wilson
    $7 \times 8 - 5 \times 3 =$ _____
11. Herbert C. Hoover
    $45 - 7 \times 5 - 4 =$ _____
12. Dwight D. Eisenhower
    $3 \times 6 - 2 =$ _____

Fact Bank

13 president who had the shortest presidency
25 first president to have his photo taken
36 first president to throw out the first pitch to start the baseball season
5 first president to live in the White House
14 president who started the White House library
16 first president to have a pilot's license
77 candy bar Baby Ruth named to honor this president's daughter
26 first president to patent an invention
3 president who had the most children
6 asteroid was named for this president
41 first president to speak on the radio
18 first president to be born a U.S. citizen, not a British subject

NAME DATE

1–20 WHAT'S NEXT?

Find the missing numbers to complete the patterns.

1. 5, _____, _____, 8, _____, 10

2. 1, 2, _____, _____, _____, 32

3. 9, 8, _____, _____, _____, 4

4. 0, _____, _____, 15, _____, 25

5. 2, _____, _____, _____, 11, 13

6. _____, _____, 9, 16, _____, 36

7. 9, _____, _____, 18, 21, _____

8. _____, 240, 120, _____, 30, _____

9. 2, 5, 11, _____, _____, _____

10. 4, _____, _____, 10, _____, 19

NAME _____ DATE _____

1–21 NUMBERS OF ALL KINDS

All of the words below relate to some type of number. Use the clues to unscramble these "number" words. Read carefully!

1. **smtocoipe:** having three or more factors _____
2. **starofc:** 4 has three of these _____
3. **veen:** can be divided by 2 _____
4. **erufigat:** in great shape _____
5. **ntadunab:** plentiful _____
6. **imrep:** having only two factors _____
7. **suliptmel:** every number has these _____
8. **dod:** peculiar _____
9. **minadepolr:** can also be a word or phrase _____
10. **ehwlo:** complete _____
11. **fereptc:** far better than good _____
12. **ceindieft:** lacking in some way _____
13. **preim:** backwards prime _____
14. **ialndarc:** a red bird _____
15. **tulanar:** not artificial _____

NAME DATE

1–22 VAL'S BABY-SITTING JOB

Complete the story by filling in the blanks with the correct numbers.

Valerie sat in the school cafeteria and noticed that it was eleven o'clock. At 7:00 P.M., just _____ hours from now, she would begin baby-sitting the two daughters of her neighbor, Mrs. Taylor. Mrs. Taylor offered to pay Val $3 per hour for each girl. Since Mrs. Taylor planned to be back about 11:00 P.M., Val figured that she would earn a total of $_____ for the night.

Val arrived at the Taylor house at 6:45 P.M., _____ minutes ahead of time. Sarah, Mrs. Taylor's older daughter, was visiting a friend and did not return home until nine o'clock. Val watched Erin, the younger daughter, from 7:00 until 11:00 and watched Sarah from 9:00 to 11:00.

Including a $3 tip, Mrs. Taylor paid Val $_____. This was $_____ less than Val had expected to earn, but she did not have to watch both girls as long as she had thought. Before she left, Mrs. Taylor asked Val if she could watch the girls next Saturday from 6:30 P.M. until 12:30 A.M. She would pay Val the same rate for a total of $_____.

As Val left, she thought about the things she could buy with the $_____, the total amount of money she expected to earn for the two nights of baby-sitting.

NAME DATE

1–23 IS THE PRICE RIGHT?

The owners of the stores in Skattersville, a somewhat unusual town, price their goods in an unusual way. The consonants and vowels in the name of an item have a monetary value. The cost of an item is found by multiplying the number of consonants in the name of the item by the value of the consonants, and then adding the product of the number of vowels and the value of the vowels. For example, if consonants were worth $1 and vowels were worth $2, the cost of an *eraser* would be $9.

Find the value of the third item in the problems that follow.

1. If a book costs $12 and a pencil costs $22, a pen costs _____.

2. If a pair of sneakers costs $19 and a pair of socks costs $11, shorts cost _____.

3. If a newspaper costs $27 and a magazine costs $20, a book costs _____.

4. If a protractor costs $17 and a ruler costs $8, a compass costs _____.

5. If an apple costs $17 and an orange costs $21, a plum costs _____.