Section 1

Essential Strategies for Whole Number Skills

NAME _____ DATE _____

1. The Math Completion Puzzle

★ **Below are a series of addition problems. Do all of the problems and then use the process of elimination to place each in the answer box below. The answers in the box are partially completed.**

1. 327 283 + 428	2. 440 396 + 427	3. 383 351 + 318	4. 454 429 + 265	5. 302 307 + 305	6. 232 343 + 248
7. 671 329 + 842	8. 949 949 + 999	9. 749 821 + 327	10. 711 713 + 744	11. 814 841 + 148	12. 792 791 + 777
13. 624 629 + 377	14. 791 243 + 811	15. 796 791 + 888	16. 371 311 + 349	17. 927 101 + 901	18. 837 713 + 211

ANSWER BOX **(not in order of problems)**

__ 8 __ 3	10 __ __	__ __ 38
8 __ __	__ __ 61	1 __ __ 7
__ __ 45	12 __ __	__ __ 60
1 __ 3 __	2 __ 6 __	__ 0 __ 1
2 __ 9 __	1 __ __ 8	2 __ __ 5
19 __ __	18 __ __	__ __ 4

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2. Adding Sweet 7's Through the Grid

★ **Follow the trail of 7's from start to finish. Start at the 7 in the corner and add 7 to find the next sum each time to get to the finish. The sums of the increases in 7's are beside each other. For example, 7 + 7 = <u>14</u>, 7 + 14 = <u>21</u>, 7 + 21 = <u>28</u>, etc. Draw a line through 7, 14, 21, 28, etc.**

Start

7	0	9	3	7	6	4	5	3	2	1	5	7	8	1	3	0	2	4	3
3	1	6	7	0	3	2	0	9	1	5	4	6	8	9	1	9	1	2	6
4	3	4	2	1	0	9	1	4	3	3	6	8	0	2	1	1	0	1	3
1	3	2	2	6	8	9	3	5	6	7	8	8	1	4	4	1	3	9	8
5	6	8	7	3	4	7	5	6	4	0	9	1	2	3	2	3	1	2	5
6	7	3	5	2	2	9	2	4	7	2	1	7	8	2	1	1	9	4	6
5	8	5	1	0	4	8	6	7	5	4	2	1	5	8	1	4	7	9	0
0	1	3	4	2	5	8	4	8	6	5	1	8	1	0	5	0	1	4	7
1	3	7	5	3	6	4	8	4	0	2	9	1	4	9	3	5	9	1	0
2	4	6	8	9	1	3	2	7	9	1	5	7	6	3	0	1	5	2	3
7	9	3	2	1	7	8	9	4	5	3	9	0	3	0	1	4	1	5	8
8	0	1	4	5	3	7	9	4	3	5	9	5	3	3	0	2	8	6	1
9	1	8	2	7	5	6	3	9	3	9	3	6	8	7	5	3	4	5	1

↑

Finish

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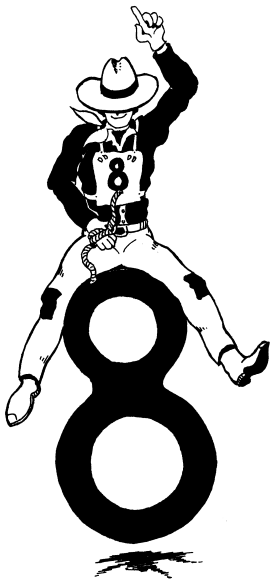
3. Adding Sweet 8's Through the Grid

★ **Follow the trail of 8's from start to finish. Start at the 8 in the corner and add 8 to find the next sum each time to get to the finish. The sums of the increases in 8's are beside each other. For example, 8 + 8 = <u>16</u>, 8 + 16 = <u>24</u>, 8 + 24 = <u>32</u>, etc. Draw a line through 8, 16, 24, 32, etc.**

Start

8	7	3	5	3	0	1	6	2	3	5	4	2	3	1	8	9	3	4	5
0	1	4	3	5	7	5	6	8	0	9	6	1	2	0	3	5	8	5	8
4	6	2	4	3	8	1	4	3	5	9	2	3	2	1	2	4	3	1	9
5	3	3	3	5	4	4	5	7	4	2	1	4	9	2	2	0	1	0	4
7	5	8	2	4	0	9	0	1	2	1	1	7	4	8	9	3	4	2	3
9	0	3	9	1	7	9	2	8	1	2	4	5	1	0	2	5	7	6	2
2	4	5	4	6	5	2	0	6	9	0	7	3	7	3	4	6	5	7	1
3	0	8	2	6	9	8	6	2	1	7	6	1	4	4	1	5	2	1	8
8	9	3	7	2	8	8	9	6	2	6	9	3	7	3	9	1	8	5	4
5	3	2	1	5	4	7	8	0	3	2	5	8	9	2	6	6	4	3	1
4	3	1	5	7	8	9	0	5	3	2	6	1	0	0	1	2	1	9	5
1	0	9	1	5	6	3	4	8	5	6	7	2	4	3	5	4	2	0	5
3	7	5	8	3	6	2	5	1	0	7	8	6	5	3	1	0	2	0	0

↑
Finish



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4. Addition Number Boxes

★ **You must climb up through each number box starting at the bottom and add the correct numbers to get the total at the top of each box. You must always go up straight or diagonally. Draw a line through the numbers you use. The first one has been done for you.**

1. **8**

2	3	4
4	2	7
7	1	1
4	1	2

2. **15**

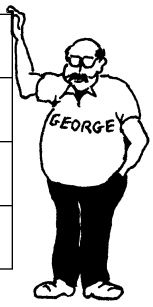
7	6	3
4	9	2
9	7	1
9	8	1

3. **21**

2	1	9
4	2	8
5	3	7
7	1	7

4. **16**

3	7	1
2	9	2
9	1	7
4	1	3



5. **20**

2	4	6
2	9	3
8	8	2
7	9	1

6. **9**

6	3	2
1	7	1
8	4	2
9	7	1

7. **54**

5	10	11
14	6	12
3	18	9
17	7	8

8. **40**

14	17	20
13	10	1
4	9	2
10	8	10

9. **72**

19	21	16
22	17	18
14	13	25
16	14	9

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5. The Wonderful Addition Puzzle

★ **Calculate the answers to the following addition problems. Locate each answer in the puzzle. Answers are vertical, horizontal, and diagonal.**

1	8	6	3	4	7	8	9	2	0	7	8	4	3	8	5	2
6	3	1	5	2	8	4	3	2	5	2	6	8	9	1	7	4
1	0	7	0	4	6	7	9	5	0	2	1	6	4	8	0	6
3	4	1	0	5	0	3	2	1	7	4	0	1	1	3	0	3
2	4	8	8	2	6	7	9	1	4	7	3	2	7	1	3	2
1	0	9	8	9	5	1	3	5	8	8	9	4	1	5	6	2
8	2	5	1	0	9	1	8	7	9	0	2	3	8	0	2	3
1	3	6	9	2	4	8	0	1	9	0	7	3	1	1	4	5
7	9	1	4	4	5	7	9	3	9	3	6	1	2	5	6	8
3	5	6	9	1	3	2	1	5	1	6	2	0	9	5	4	3

1. 427 + 283 + 340

2. 641 + 327 + 911

3. 471 + 472 + 321

4. 853 + 487 + 777

5. 821 + 821 + 821

6. 747 + 767 + 737

7. 829 + 491 + 927

8. 444 + 333 + 222

9. 645 + 109 + 106

10. 311 + 301 + 101

11. 647 + 922 + 811

12. 774 + 711 + 327

13. 141 + 191 + 229

14. 747 + 811 + 922

15. 622 + 317 + 924

16. 647 + 329 + 841

17. 311 + 922 + 283

18. 631 + 111 + 209

19. 632 + 194 + 244

20. 374 + 123 + 321

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6. Subtraction Number Boxes

★ **You must climb down through each number box starting at the top. Subtract the correct numbers to get the total at the bottom. You must start with a number from the top row and subtract only those other numbers that will give you the correct number at the bottom. Draw a line through the numbers you use. The first one has been done for you.**

1.

11	17	20
2	3	3
4	2	1
9	8	7

4

2.

10	9	11
4	2	2
3	6	1
1	8	1

5

3.

4	17	20
3	7	2
2	1	9
1	1	2

7

4.

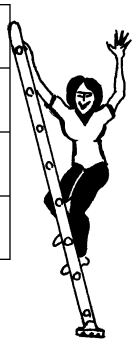
40	20	10
3	2	7
8	4	9
10	7	11

17

5.

20	19	18
1	4	9
2	7	1
3	2	9

6



6.

14	17	30
4	1	4
9	10	2
8	7	6

5

7.

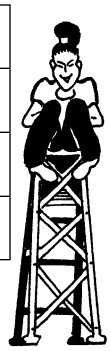
60	20	19
4	10	2
11	1	9
8	21	9

18

8.

3	17	13
8	2	3
7	1	2
6	1	9

1



9.

14	13	15
7	8	4
3	1	7
9	2	1

4

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7. The Wonderful Subtraction Puzzle: Part One

★ **Calculate the answers to the following subtraction problems. Locate each answer in the puzzle. Answers are vertical and horizontal only.**

1. 927 − 284	2. 647 − 229	3. 884 − 392	4. 779 − 584
5. 642 − 138	6. 841 − 229	7. 975 − 327	8. 982 − 427
9. 847 − 229	10. 672 − 370	11. 891 − 547	12. 837 − 317
13. 427 − 123	14. 849 − 375	15. 982 − 377	16. 477 − 179
17. 892 − 377	18. 884 − 227	19. 984 − 222	20. 834 − 248

9	5	7	6	8	4	3	1	2	4	9	0	2	4	3	7	9
4	3	3	0	4	5	7	6	4	8	0	9	1	9	5	5	5
6	7	8	0	4	1	9	4	1	8	5	6	6	1	0	0	2
7	9	1	5	3	7	8	3	6	6	0	1	5	4	4	3	0
1	2	3	5	8	6	4	5	6	4	9	2	7	8	6	5	2
4	6	9	9	3	2	8	6	0	5	8	4	2	3	4	4	9
9	5	1	0	0	1	9	1	5	9	1	0	4	0	5	7	6
6	7	5	3	1	2	9	8	9	1	3	1	3	2	0	4	5
4	5	1	9	0	1	2	3	8	5	3	4	6	7	3	5	9
5	1	5	4	3	1	0	9	5	6	3	5	1	9	0	7	8

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8. The Wonderful Subtraction Puzzle: Part Two

★ **Calculate the answers to the following subtraction problems. Locate each answer in the puzzle. Answers are vertical and horizontal only.**

1. 6742 – 731	2. 3275 – 289	3. 6427 – 477	4. 6471 – 329
5. 3712 – 842	6. 6899 – 327	7. 4815 – 215	8. 6414 – 419
9. 4777 – 998	10. 1101 – 292	11. 3271 – 273	12. 4717 – 427
13. 6471 – 921	14. 4271 – 272	15. 7742 – 399	16. 4781 – 834
17. 8924 – 911	18. 4671 – 282	19. 4694 – 291	20. 6419 – 844

9	5	2	2	5	4	3	1	2	4	9	0	2	4	3	5	9
4	3	3	9	9	9	7	6	4	8	3	9	1	9	5	5	5
6	7	8	8	5	1	6	5	7	2	5	6	6	1	0	5	2
7	9	1	6	0	1	1	3	6	4	5	1	4	2	9	0	0
1	2	3	5	8	6	4	5	3	6	9	8	0	9	6	5	2
4	6	9	9	3	2	2	8	7	0	8	4	2	9	4	4	9
7	3	4	3	8	9	9	1	7	0	1	0	4	8	0	1	3
6	7	5	9	1	2	9	5	9	9	5	5	7	5	0	4	5
4	5	1	4	4	0	3	3	8	5	3	4	6	7	3	5	9
5	1	5	7	3	1	0	9	5	6	3	5	1	9	0	7	8

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9. Being Careful in Math

★ **We must be careful in math because the answers must be exact. Below is an exercise that may at first glance appear easy but can be a challenge. Answer the questions below the limerick. Be careful!**

Arrogant, a boy was counting with dignity
These letters with skill and ability;
He thought he knew it all
But pride before a fall
He missed the "ty" in modesty.

1. What is the total number of r's? _____
2. What is the total number of s's? _____
3. What is the total number of a's and o's? _____
4. Subtract the number of l's from the number of t's. _____
5. Multiply the number of m's times the number of k's. _____
6. Add the number of g's to the number of u's and b's. _____
7. Subtract the number of c's from the number of h's. _____
8. Subtract the number of d's from the number of y's. _____
9. Add the number of w's to the total number of n's. _____
10. Subtract the total number of vowels (a, e, i, o, u) from the total number of letters in the limerick. _____

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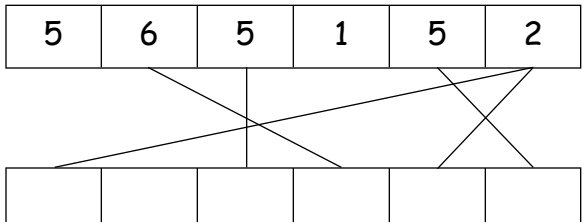
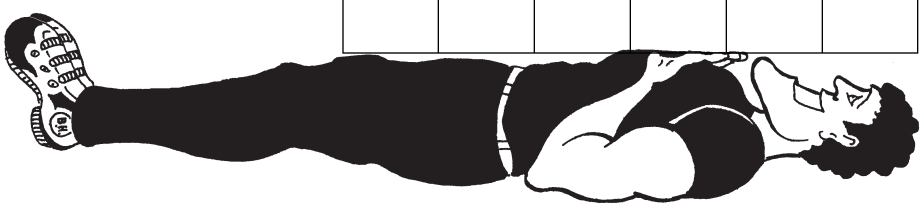
10. Math Connections

★ **Calculate the problems below and put your answers in the individual boxes beside each problem. If an answer above another answer has one or more of the same numbers in it as the answer below, a line has been drawn from the box above to the box below that contains that same number. The first one has been done for you.**

1. $672 \times 841 =$
2. $325 \times 725 =$
3. $692 \times 841 =$
4. $397 \times 455 =$
5. $283 \times 327 =$
6. $258 \times 369 =$
7. $987 \times 654 =$
8. $321 \times 357 =$





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11. The Wonderful Multiplication Puzzle

★ **Locate each answer in the puzzle. Answers are vertical and horizontal only.**

9	9	3	3	5	1	7	2	5	7	2	5	8	6	3	8	1	0	2	8
3	0	7	0	2	3	3	4	3	5	7	6	1	3	9	4	8	6	3	5
7	9	8	4	8	0	1	2	4	3	8	2	2	2	8	9	7	3	1	6
2	3	1	0	8	3	7	5	8	3	3	1	2	1	8	7	3	5	4	0
8	7	4	6	4	5	3	1	7	1	7	0	8	2	2	2	7	0	3	1
2	3	5	3	3	6	2	9	3	6	0	9	6	5	4	3	5	8	3	9
6	9	4	2	2	4	5	7	4	8	2	7	2	0	5	8	2	5	2	0
9	0	3	5	0	6	0	2	9	7	3	6	1	8	0	5	4	3	1	7
3	2	5	7	1	9	2	0	1	4	3	8	7	1	9	1	5	0	3	8
7	1	2	3	5	8	4	3	1	5	9	2	9	9	6	0	6	1	5	6
2	1	3	4	8	4	0	8	3	7	3	1	0	5	9	4	4	2	4	3
9	4	0	3	3	1	1	7	6	0	2	4	6	3	2	1	7	0	4	3
6	8	6	5	6	9	7	3	0	4	8	5	3	0	6	5	8	4	2	9

1. 327×7

2. 283×3

3. 427×4

4. 318×9

5. 350×7

6. 170×8

7. 440×4

8. 428×7

9. 429×5

10. 454×5

11. 402×9

12. 396×9

13. 351×7

14. 240×8

15. 360×7

16. 340×8

17. 426×4

18. 307×8

19. 305×7

20. 302×7

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12. Shady Division

★ **Shade in all the squares in a set that can be divided evenly by the number on top of each set.**

Divisible by 7

14	13	35	65	42	61
21	9	99	81	79	56
33	86	63	69	7	88
19	70	81	31	77	18
84	14	34	32	33	19
13	33	20	17	22	28

Divisible by 4

20	83	36	61	91	24
44	77	95	8	73	71
45	41	4	9	40	97
47	12	62	32	67	69
55	82	7	86	89	93
28	10	48	81	1	16

Divisible by 2

7	19	2	1	9	20
9	22	35	4	15	61
11	45	75	17	12	67
13	77	6	79	99	73
10	31	65	81	37	8
25	39	14	83	16	18

Divisible by 3

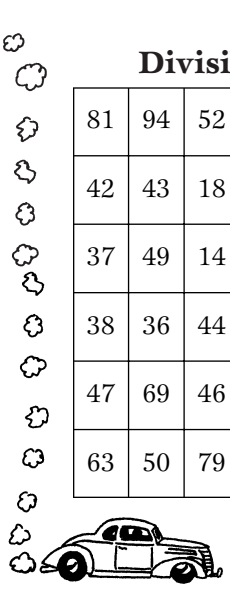
3	11	7	8	6	10
68	67	21	41	22	27
23	9	37	38	33	47
18	35	40	43	44	15
13	9	12	2	1	20
24	65	36	64	30	46

Divisible by 5

15	46	71	17	16	20
44	69	45	52	74	35
30	72	54	73	10	48
55	51	5	77	47	50
49	18	91	25	76	92
93	60	19	21	53	40

Divisible by 9

81	94	52	9	89	72
42	43	18	41	27	83
37	49	14	7	3	99
38	36	44	90	1	20
47	69	46	48	45	40
63	50	79	39	51	54



Divisible by 6

12	46	31	18	45	36
39	72	2	1	10	9
38	32	42	40	41	24
30	43	44	9	66	7
37	47	48	8	54	3
34	49	33	6	35	60

Divisible by 8

72	15	14	31	37	81
25	11	8	69	56	52
9	80	20	88	53	51
24	2	32	17	16	19
1	12	87	33	83	34
13	96	10	40	91	48

Divisible by 10

68	94	10	2	1	8
90	67	73	30	74	84
78	27	20	81	80	83
60	32	14	9	7	3
18	70	81	40	76	79
77	85	21	75	50	89

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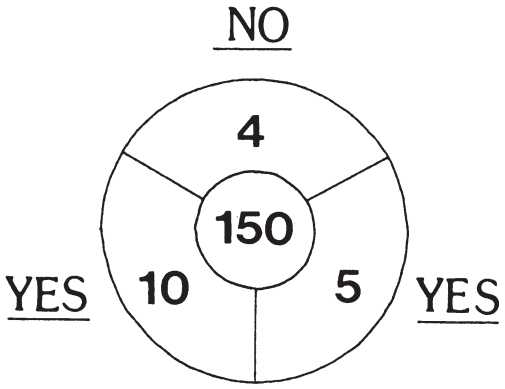
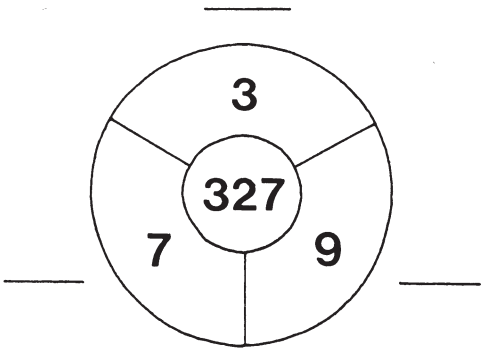
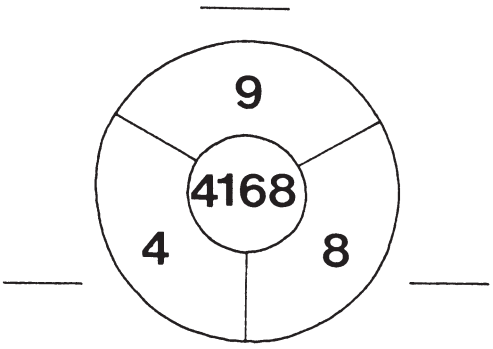
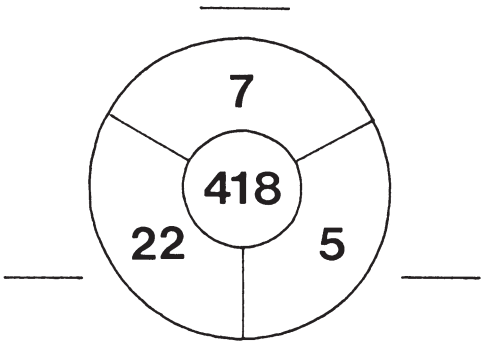
13. Logical Deductive Reasoning

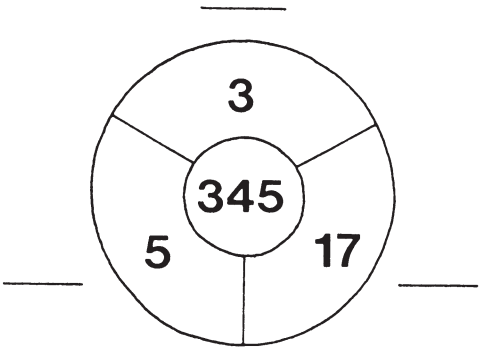
★ **In each division circle below is a number in the middle of the circle. Around the edge are numbers that may or may not divide into the center number evenly. Your task is to write YES if the number in the outer circle will divide *evenly* into the center number or NO if it will not divide evenly into the center number. The first one has been done for you.**

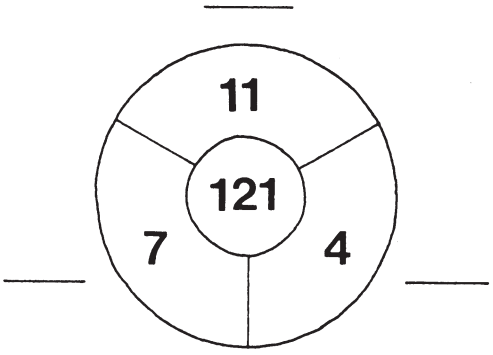












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14. The Wonderful Division Puzzle: Part One

★ **Calculate the answers to the following division problems. Locate each answer in the puzzle. Answers are vertical and horizontal only.**

1. $2080 \div 5 =$
2. $696 \div 3 =$
3. $4212 \div 4 =$
4. $3945 \div 5 =$
5. $4131 \div 9 =$
6. $1625 \div 5 =$
7. $2064 \div 4 =$
8. $735 \div 5 =$
9. $3364 \div 4 =$
10. $5922 \div 6 =$

0	6	5	4	0	9	3	4	3	2	8	6	0	4	2	1	0
1	9	7	3	1	8	2	4	1	6	3	4	3	2	5	7	6
9	3	1	2	1	0	9	2	4	5	7	6	3	9	4	0	7
2	7	5	5	2	3	0	7	7	1	6	8	8	4	1	9	0
2	5	2	2	6	3	8	8	9	6	4	3	7	6	5	4	7
8	5	3	2	1	4	5	9	0	3	6	0	2	7	0	2	1
8	4	2	1	0	1	9	8	0	1	5	1	3	8	9	3	5
0	9	3	1	0	5	3	2	5	7	8	1	2	5	8	1	0
7	5	4	3	1	9	2	5	8	5	3	9	7	2	7	3	1
2	5	9	7	0	1	3	4	9	2	6	9	8	6	8	9	0

11. $4851 \div 7 =$
12. $5886 \div 9 =$
13. $2064 \div 8 =$
14. $2735 \div 5 =$
15. $954 \div 6 =$
16. $3255 \div 7 =$
17. $5301 \div 9 =$
18. $2792 \div 4 =$
19. $2615 \div 5 =$
20. $4179 \div 7 =$

NAME _____ DATE _____

15. The Wonderful Division Puzzle: Part Two

★ **Calculate the answers to the following division problems. Locate each answer in the puzzle. Answers are vertical and horizontal only.**

1. 390 ÷ 15 =
2. 2400 ÷ 25 =
3. 4485 ÷ 65 =
4. 7921 ÷ 89 =
5. 1120 ÷ 32 =
6. 3132 ÷ 58 =
7. 5586 ÷ 98 =
8. 2704 ÷ 52 =
9. 3367 ÷ 37 =
10. 3782 ÷ 62 =

0	3	0	1	8	7	3	0	2	1	5	0	8	9	0	4	0
2	0	1	7	8	5	3	8	4	0	8	9	4	8	1	7	1
9	1	3	5	0	2	2	3	6	9	0	0	3	0	2	6	2
0	6	0	0	2	4	6	7	0	6	0	0	7	7	0	5	5
9	0	1	2	8	9	3	6	5	0	0	3	3	4	5	1	0
6	2	0	1	3	5	7	0	3	1	5	0	7	2	0	0	3
0	1	2	4	0	6	0	2	0	9	4	9	0	5	2	4	0
2	3	1	0	9	0	2	0	6	0	0	0	9	0	7	6	9
0	1	0	5	4	6	4	0	1	3	4	3	1	3	2	0	1
0	9	1	2	5	3	0	0	7	2	1	4	5	0	0	2	1

11. 3968 ÷ 64 =
12. 2754 ÷ 51 =
13. 2256 ÷ 47 =
14. 1886 ÷ 46 =
15. 2058 ÷ 21 =
16. 5049 ÷ 99 =
17. 7744 ÷ 88 =
18. 7007 ÷ 91 =
19. 2585 ÷ 55 =
20. 704 ÷ 22 =

NAME _____ DATE _____

16. The Wonderful Division Puzzle: Part Three

★ **Calculate the answers to the following division problems. Locate each answer in the puzzle. Answers are vertical and horizontal only.**

1. 87843 ÷ 89 =
2. 24128 ÷ 32 =
3. 61815 ÷ 65 =
4. 62784 ÷ 96 =
5. 34986 ÷ 98 =
6. 67326 ÷ 98 =
7. 49416 ÷ 58 =
8. 17018 ÷ 67 =
9. 19902 ÷ 62 =
10. 32860 ÷ 53 =

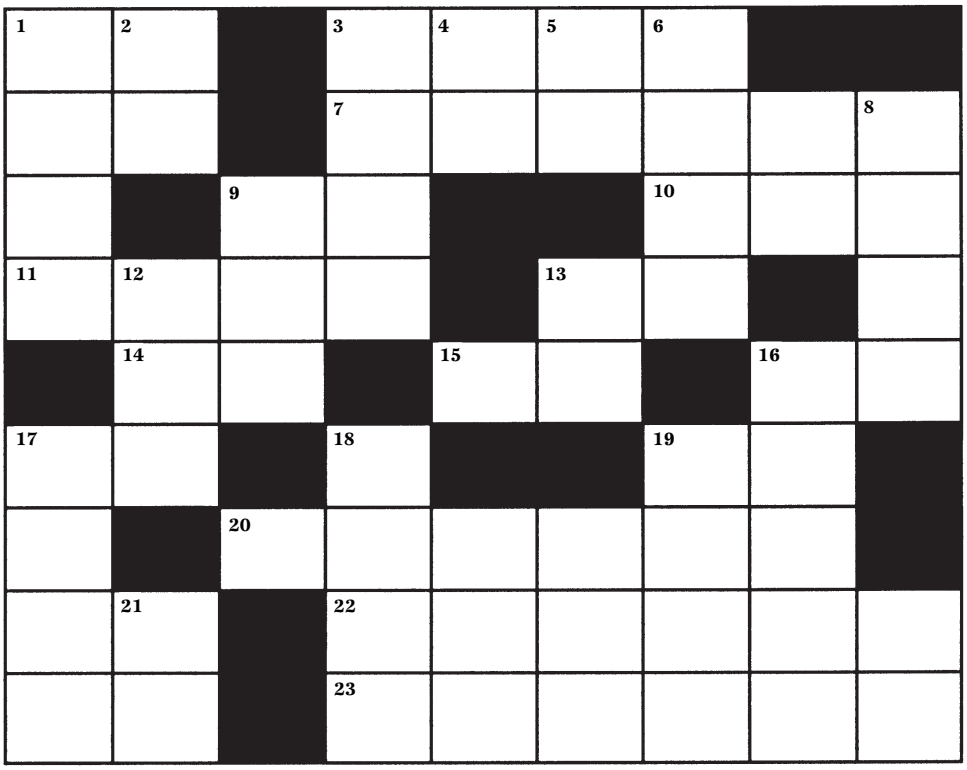
5	3	5	0	1	2	4	6	9	7	8	2	5	9	5	6	8
5	7	2	1	0	1	7	5	8	3	4	0	0	9	0	1	4
5	0	3	2	2	1	4	3	7	6	0	7	1	0	5	2	4
8	7	7	8	5	7	6	9	1	0	9	2	3	5	4	7	2
9	5	6	5	4	3	7	4	3	2	1	2	7	9	3	4	6
1	4	5	2	0	9	3	7	4	6	0	3	9	5	1	1	2
3	2	2	1	5	6	6	3	7	8	5	4	2	0	0	8	0
3	2	7	8	1	0	8	5	0	5	4	0	6	5	3	9	3
2	8	9	1	3	6	8	7	5	0	7	8	8	4	2	1	0
3	3	5	4	8	2	3	1	2	8	3	7	0	1	8	4	1

11. 37845 ÷ 45 =
12. 51965 ÷ 95 =
13. 30691 ÷ 47 =
14. 24087 ÷ 93 =
15. 31080 ÷ 56 =
16. 24581 ÷ 47 =
17. 44764 ÷ 62 =
18. 31228 ÷ 37 =
19. 28449 ÷ 87 =
20. 26036 ÷ 92 =

NAME _____ DATE _____

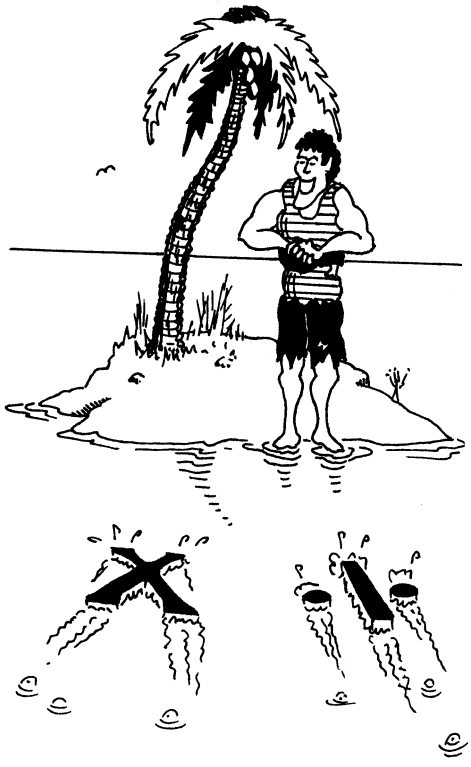
17. Multiplication and Division Crossnumber Puzzle

★ **Answer the problems below and place the answers in the appropriate place in the puzzle.**



ACROSS

7. 5,893,137 ÷ 9
9. 432 ÷ 9
10. 4810 ÷ 5
11. 738 × 10
14. 10,450 ÷ 475
15. 9,024 ÷ 96
16. 3,195 ÷ 45
19. 1,558 ÷ 41
20. 123,409 × 8
22. 9,936,890 ÷ 10
23. 1,469,550 ÷ 3



DOWN

1. 427 × 21
2. 3 × 31
3. 42,120 ÷ 9
4. 19 × 5
5. 168 ÷ 7
6. 18,960 ÷ 5
8. 29,439 ÷ 9
12. 1,308 ÷ 4
13. 336 ÷ 4
17. 395 × 25
18. 1,947 × 2
21. 5 × 5

NAME _____ DATE _____

18. Rounding Off Whole Numbers

QUICK ACCESS information

QUICK ACCESS INFORMATION ➜ When we round off numbers, we first look at what place value the question asks us to round off to; then we look at the digit immediately after that place to see if it is 5 or greater. If it is 5 or greater, we go to the next highest digit in the required space.

For example: Using the number 2,874 . . .

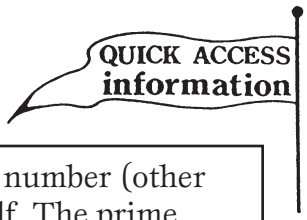
Round to	Result	Why
Nearest ten	2,870	The 4 after the 7 is not 5 or greater, so we do not change the 7 to 8.
Nearest hundred	2,900	The 7 after the 8 is 5 or greater, so we change the 8 to 9.
Nearest thousand	3,000	The 8 after the 2 is 5 or greater, so we change the 2 to 3.

★ **Round these numbers to the nearest thousand, nearest hundred, and nearest ten.**

Number	Nearest Thousand	Nearest Hundred	Nearest Ten
4,745			
4,586			
8,488			
6,715			
13,546			
2,732			
1,184			
2,272			
4,111			
9,477			
14,557			
15,139			

NAME _____ DATE _____

19. Prime Number Gaps



QUICK ACCESS INFORMATION ➜ A prime number is a number (other than 1) that can be divided evenly only by 1 and the number itself. The prime numbers below 10 are 2, 3, 5, and 7.

★ **Below the puzzle are a series of problems. Answer each one and find those answers in the puzzle. All the prime numbers below 10 have been removed. You must fill in the blank spaces with the correct prime numbers from the answers to the problems.**

8	1	6	4	1	6	4	9	8	6	9	1	0	1	4
0	6	1	6	1	◯	8	4	6	8	4	0	9	8	1
9	6	9	0	6	4	8	0	1	9	◯	8	4	6	0
9	9	1	8	6	9	◯	◯	◯	6	◯	0	1	4	8
0	1	6	8	4	9	0	1	9	4	6	4	6	0	◯
1	◯	4	◯	1	9	◯	6	8	9	1	6	◯	8	1
8	4	6	1	8	9	8	4	1	8	4	1	◯	1	9
4	8	4	6	◯	9	1	◯	0	1	1	0	◯	9	◯
8	6	0	1	8	0	9	4	1	◯	0	9	4	8	0
8	◯	8	◯	6	4	1	8	6	1	9	8	8	1	9

1. 6552 − 3276

2. 7289 − 372

3. 6947 − 222

4. 6414 − 3217

5. 8229 − 4317

6. 6972 − 814

7. 9799 − 327

8. 8419 − 298

9. 7514 − 321

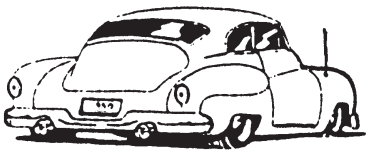
10. 8714 − 329

NAME _____ DATE _____

20. The Prime Number Division Chart

★ **Complete the following chart to see if the numbers in the column on the left can be divided by the prime numbers to the right. (Two of the answers have been put in place to help you get started.)**

Numbers	Can the number on the left be divided evenly by these prime numbers? (Yes or No)					
	2	**3**	**5**	**7**	**11**	**13**
26	YES					
56						
27						
33				NO		
44						
52						
30						
105						
42						
154						
143						
195						



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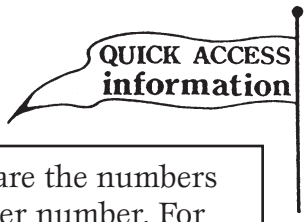
21. Composite Number Gaps



QUICK ACCESS INFORMATION ➜ Composite numbers are the numbers that result from multiplying any number (other than 1) by another number. For example, 8 is a composite number because $2 \times 4 = 8$. The composite numbers below 10 are 4, 6, 8, and 9.

★ **Below the puzzle are a series of problems. Answer each one and find those answers in the puzzle. All the composite numbers below 10 have been removed. You must fill in the blank spaces with the correct composite number from the answer to the problems.**

◯	◯	5	1	1	◯	3	5	◯	5	3	7	◯	2	1
1	3	2	3	5	1	7	5	3	1	2	5	7	1	3
2	5	7	5	5	7	1	3	7	2	7	1	7	2	5
5	1	1	2	7	5	◯	◯	5	3	1	2	◯	3	5
◯	2	5	3	2	1	5	3	2	1	◯	5	7	5	3
3	1	3	7	5	2	3	3	5	2	◯	3	5	2	7
1	3	5	5	7	3	2	5	◯	5	3	5	3	◯	2
5	◯	◯	2	5	3	5	2	◯	2	5	3	1	◯	5
2	3	5	1	3	5	2	5	5	7	3	2	5	2	3
1	5	2	3	◯	◯	7	7	7	2	1	5	3	7	1

1. 7871 − 322

2. 6416 − 931

3. 5271 − 497

4. 3414 − 922

5. 7198 − 347

6. 3294 − 731

7. 4822 − 397

8. 4270 − 383

9. 4835 − 479

10. 8147 − 963

NAME _____ DATE _____

22. Greatest Common Factor and Least Common Multiple

QUICK ACCESS information

QUICK ACCESS INFORMATION ➜ The greatest common factor (GCF) is the largest number that will divide evenly into two or more numbers. All composite numbers are the product of smaller prime numbers called prime factors. For example:

Do not use lone factors with GCF. Use only factors that are common to both numbers.

$12 = 2 \mid 2 \mid 3$

$18 = 2 \mid \quad \mid 3 \mid 3$

$2 \times 3 = 6$ is GCF

OR

$12 = \textcircled{2} \times 2 \times \textcircled{3}$

$18 = \textcircled{2} \times \textcircled{3} \times 3$

$2 \times 3 = 6$

The GCF is 6.

★ **A. Find the Greatest Common Factor for these numbers.**

1. 6 and 15
2. 18 and 30
3. 15 and 20
4. 15 and 25
5. 15 and 18
6. 18 and 24

QUICK ACCESS INFORMATION ➜ The Least Common Multiple (LCM) is the lowest number that can be divided evenly by two or more numbers. For example:

You must use lone factors with LCM.

$9 = 3 \mid 3 \mid$

$6 = \quad \mid 3 \mid 2$

$3 \quad 3 \quad 2 = 18$ is LCM

OR

$9 = \textcircled{3} \times 3$

$6 = \textcircled{3} \times 2$

$3 \times 2 \times 3 = 18$

The LCM is 18.

★ **B. Find the Least Common Multiple of these numbers.**

1. 4 and 10
2. 4 and 15
3. 6 and 10
4. 15 and 25
5. 16 and 24
6. 12 and 15

NAME _____ DATE _____

23. The Rhyming Variety Page

★ **Calculate the following problems. Each answer corresponds with a word. When you obtain the word, place it in the rhyme that matches the problem number. The first one is done for you.**

1. $327 + 721 =$
2. $283 - 265 =$
3. $47 \times 42 =$
4. $824 + 224 =$
5. $287 + 92 =$
6. $27 \times 8 =$
7. $48 + 9^2 =$
8. $262 \times 4 =$
9. $67 + 49 =$
10. $23 \times 23 =$
11. $379 - 81 =$
12. $387 + 321 =$
13. $427 - 408 =$
14. $43 \times 3 =$
15. $131 \times 8 =$
16. $475 \div 25 =$
17. $3^2 + 9 =$
18. $437 - 321 =$
19. $1320 + 654 =$
20. $118 \times 6 =$

1048	18	1974	379	708	19
seven	St. Ives	going	man	cats	Kits
298	**216**	**529**	**116**	**129**	
many	met	wife	sacks	wives	

As I was *going* (3) to _____ (2)

I _____ (6) a _____ (5) with _____ (1) _____ (7).

Each _____ (10) had _____ (4) _____ (9).

Each sack had _____ (15) _____ (12).

Each cat had _____ (8) _____ (13).

_____ (16), _____ (20), _____ (18), and _____ (14).

How _____ (11) were _____ (19) to _____ (17)?

(*Old English Rhyme*)

Bonus Question: How many living things went to St. Ives? _____

NAME _____ DATE _____

24. The Partially Completed Choice Puzzle

★ **In the puzzle below, the question numbers on the side require answers to be placed from left to right (horizontally). Question numbers at the top require answers to be placed from top to bottom (vertically). It is your choice as to which questions to calculate. As the puzzle is partially completed, it may be a benefit to calculate a combination of vertical and horizontal answers.**

HORIZONTAL

1. 3,146,298 + 12,345

2. 2,834 × 2,831

3. 7,832,549 − 1,279,984

4. 14,134 × 327

5. 7,271,349 − 129,879

6. 4,719,327 + 92,983

7. 92,729 × 23

	8	9	10	11	12	13	14
1		1	5		6		3
2		0		3		5	
3	6				5		
4			2			1	8
5							
6	4		1				
7		1		2	7		7

VERTICAL

8. 3,827,755 + 36,987

9. 150,883 × 7

10. 5,399,671 − 147,258

11. 8,312,595 + 8,527

12. 288,497 × 21

13. 4,239,729 + 321,987

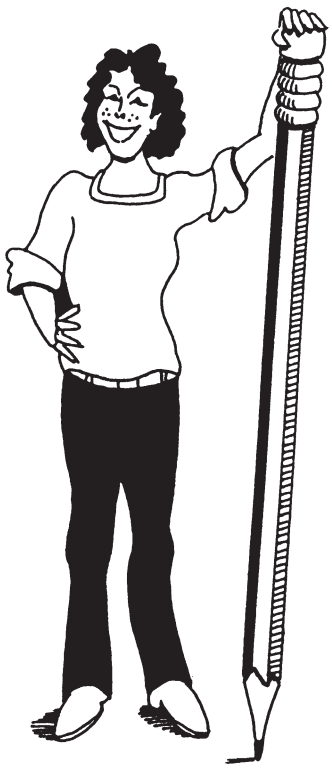
14. 4,112,796 − 654,789

NAME _____ DATE _____

25. The Number Match Game

★ **Calculate the answers to the problems on the left and draw a line to the correct answer on the right.**

784 ÷ 14	5798
327 × 9	2943
8113 – 475	69
479 + 8472	757
6762 ÷ 98	55
283 × 9	6919
9143 – 879	89
348 + 409	8264
3025 ÷ 55	731
427 × 9	3447
7841 – 922	780
351 + 429	56
6942 ÷ 78	3999
440 × 9	7638
4567 – 568	8951
302 + 429	7395
805 ÷ 23	2547
383 × 9	3843
6587 – 789	3960
6541 + 854	35



NAME _____ DATE _____

26. Take Your Pick

★ **Listed below are a series of double problems. You must pick or choose one from each pair to calculate. It does not matter which one you do for each pair because they will have the same answer. Find each answer in the grid on the right and draw a line through it.**

1. $327 - 283$ OR $220 \div 5$
2. $426 + 340$ OR 383×2
3. $327 - 124$ OR $98 + 105$
4. 68×5 OR $961 - 621$
5. $987 - 99$ OR 8×111
6. $7371 \div 91$ OR 9×9
7. $374 \div 2$ OR $926 - 739$
8. $327 + 240$ OR 9×63
9. $789 - 231$ OR 62×9
10. $699 + 116$ OR 163×5
11. $521 + 96$ OR $986 - 369$
12. $484 - 256$ OR $535 - 307$
13. 58×6 OR 116×3
14. 149×5 OR $987 - 242$
15. $951 + 32$ OR $547 + 436$

0	9	7	6	4	3	1	1	9	8
8	2	4	3	4	5	7	0	1	2
8	0	9	1	4	1	0	2	4	7
8	6	1	7	5	9	7	5	2	4
0	7	9	3	2	3	4	0	0	5
2	6	7	5	7	0	8	3	4	5
0	1	2	0	3	3	5	5	1	9
2	7	2	9	8	3	6	6	2	0
2	8	5	4	2	1	5	7	2	1
8	5	7	6	6	5	2	3	0	9
9	1	0	6	7	0	2	3	4	8
2	5	9	5	5	8	0	1	3	5
4	3	0	2	9	1	8	3	8	6
8	0	1	8	7	0	1	7	1	5
3	6	9	1	2	1	5	2	4	3

NAME _____ DATE _____

27. Vertical and Horizontal Calculations

★ **Place the correct answers from the calculations in the appropriate boxes. Add up the digits in each box both horizontally and vertically, putting the totals at the end of each row. Calculate the total of the digits and put that answer in the grand total box.**

A. 12,589 + 36,389

B. 98,753 – 21,516

C. 8,861 × 4

D. 182,583 ÷ 9

E. 2,306,775 ÷ 25

Place answers vertically

A	B	C	D	E	**Horizontal Totals**
Vertical Totals					**Grand Total**

F. 87,657 + 327

G. 83,785 – 6,548

H. 35,507 – 963

I. 87,874 – 852

J. 4,093 × 3

Place answers horizontally

F					**Horizontal Totals**
G					
H					
I					
J					
Vertical Totals					**Grand Total**

NAME _____ DATE _____

28. The James Q. Dandy (Jim Dandy) Variety Puzzle

★ **Answer the problems below, then search for the answers in the puzzle and draw a line through them.**

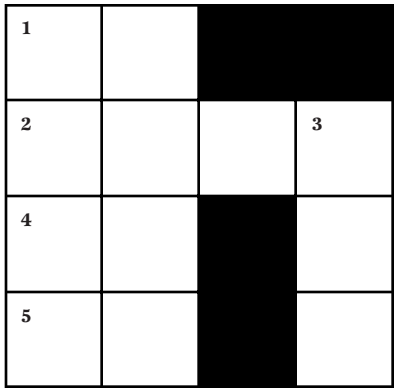
1. $321 + 252 =$ _____
2. $1837 \times 4 =$ _____
3. $795 \div 5 =$ _____
4. $454 - 396 =$ _____
5. $4914 \div 9 =$ _____
6. $283 + 265 =$ _____
7. $327 + 398 =$ _____
8. $302 \div 2 + 351 =$ _____
9. $302 + 351 =$ _____
10. $292 + 260 + 289 =$ _____
11. $351 + 352 + 392 =$ _____
12. $400 \times 429 =$ _____
13. $2824 \div 8 =$ _____
14. $2718 \div 9 =$ _____
15. $426 + 360 + 320 =$ _____
16. $1477 \times 5 =$ _____
17. $340 + 426 - 324 =$ _____
18. $360 + 440 =$ _____
19. $440 - 319 =$ _____
20. $426 + 441 =$ _____

3	5	9	8	1	3	7	7	5	7	1	3	4	8	2	3	4	8	9	7
5	9	7	3	5	6	8	2	7	4	6	2	8	4	8	8	5	1	6	3
5	9	7	6	0	1	2	5	7	8	6	4	8	4	6	5	4	2	8	5
5	8	0	3	1	0	9	5	3	1	9	2	3	5	3	9	5	8	3	6
1	5	9	6	3	4	2	9	7	0	2	1	5	8	4	0	1	3	8	6
2	6	4	3	1	6	9	2	0	9	0	5	8	5	1	5	6	3	8	7
0	3	8	3	8	1	8	0	5	1	9	3	8	9	5	6	2	3	7	1
7	7	1	7	2	6	3	9	5	1	5	6	1	8	5	9	5	1	2	0
5	9	1	4	5	8	6	7	9	7	5	2	8	9	6	1	4	3	1	7
8	5	6	1	4	0	1	3	8	3	2	8	3	1	2	4	5	4	6	0
8	9	6	2	3	5	5	8	1	2	3	5	1	3	5	9	9	0	8	2
5	0	3	6	5	3	2	4	6	8	1	0	9	0	1	7	1	6	0	0
0	2	3	1	5	7	2	6	8	3	1	2	5	9	5	9	6	1	2	1
1	3	8	1	7	4	1	5	3	6	9	8	5	4	4	1	3	5	9	2
2	2	4	0	2	6	6	4	1	5	4	3	6	8	9	7	5	6	6	8
8	6	8	6	3	2	0	7	3	1	0	5	9	7	3	4	8	8	9	0
5	0	2	8	8	5	6	1	9	3	3	8	3	8	6	5	6	4	4	0
9	5	7	6	5	2	1	3	8	9	8	1	3	3	5	6	4	1	1	3
8	9	6	2	5	4	8	8	6	4	4	2	8	5	7	2	1	0	6	4
0	5	4	8	3	4	5	9	4	3	0	2	9	6	3	4	7	3	8	5

NAME _____ DATE _____

29. Math Puzzle Boxes

★ **Do the calculations across and/or down in order to fill in the puzzle.**

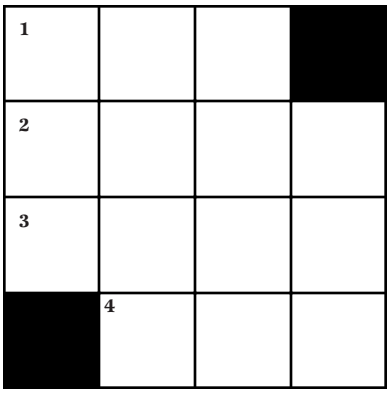


ACROSS

1. 4×4
2. $737 + 562$
4. $1564 \div 68$
5. $988 \div 19$

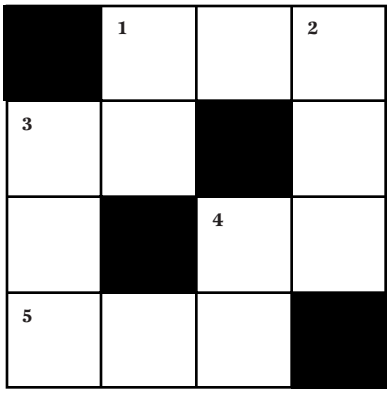
DOWN

3. $1558 - 621$



ACROSS

1. 25×5
2. 64×32
3. $3523 + 856$
4. $580932 \div 652$



ACROSS

1. $428 \div 4$
3. 7×7
4. $5372 \div 68$
5. $989 - 695$

DOWN

2. $903 - 104$
3. $987 - 505$

The Long Box: Do the calculations below the box, then place the answer in the box. Add all answers to get a grand total.

283 + 402	327 + 351	318 + 360	427 + 426	428 + 402	396 + 305	**Grand Total**

NAME _____ DATE _____

30. Center Math Vocabulary

★ **In the center of the puzzle below are math vocabulary words that need to be found in the surrounding puzzle. Words are forward, backward, and diagonal.**

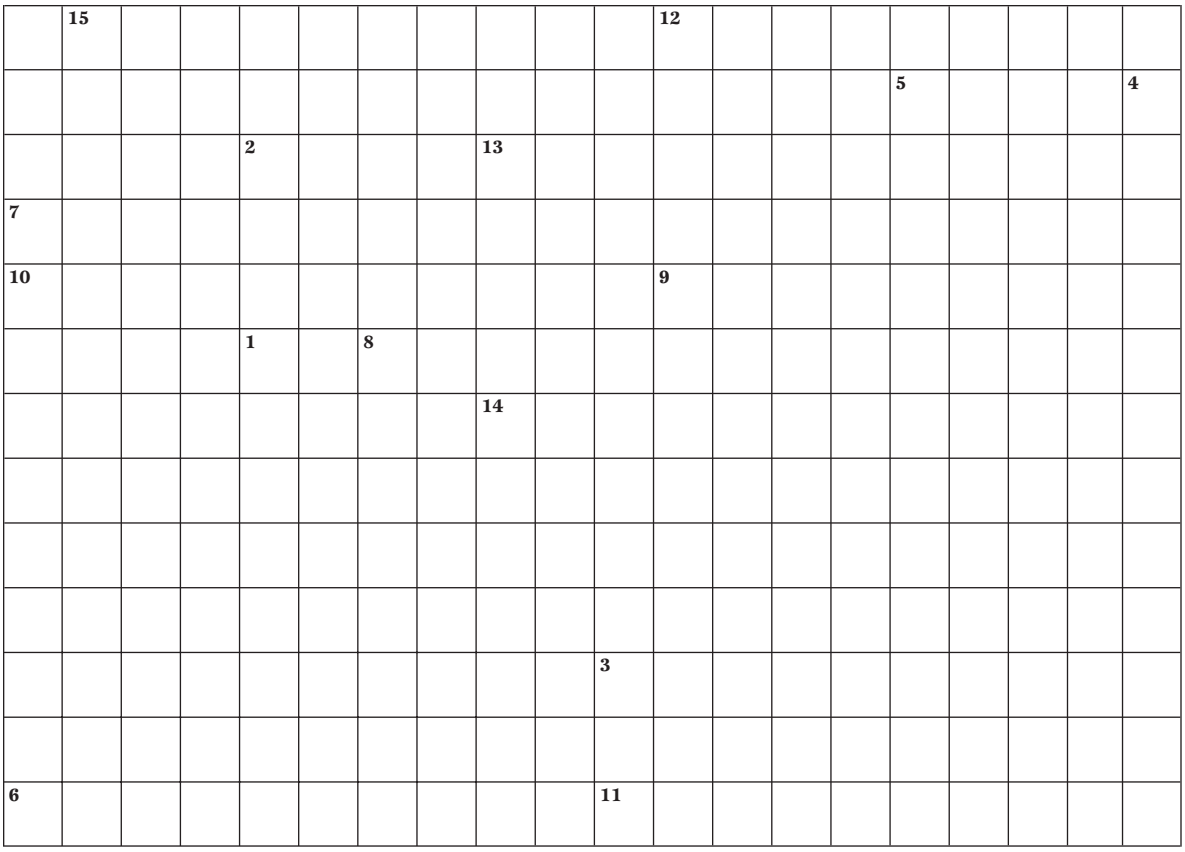
C	E	N	T	I	M	E	T	E	R	A	L	C	B	V	W	E	L	L	I	P	S	E	R	I	O	L	C
U	R	Y	T	P	L	F	Q	W	R	E	X	C	O	A	M	I	N	T	E	R	S	E	C	T	P	O	M
M	N	E	R	A	A	T	F	W	N	A	P	L	Y	M	U	L	A	S	E	U	N	E	V	Q	U	R	T
R	E	U	P	C	H	W	O	G	I	K	M	U	L	T	I	P	L	E	S	U	P	O	R	N	F	G	U
C	V	B	T	O	S	A	T	R	E	O	I	N	F	D	E	G	H	I	P	V	N	P	T	R	E	R	T
L	L	O	C	K	B	H	P	E	R	P	E	N	D	I	C	U	L	A	R	E	R	K	Y	U	M	C	Z
B	R	A	V	I	V	E	M	B	R	A	N	G	L	E	R	G	M	H	W	P	O	E	S	U	T	B	O
V	A	S	C	U	K	L	E													B	O	L	T	Y	B	M	F
T	N	A	V	I	S	T	W													E	D	U	T	I	T	A	L
I	T	N	B	I	G	W	O													L	N	M	I	L	O	P	R
P	G	K	U	N	J	O	T													O	B	M	K	D	E	R	S
M	H	I	L	I	G	H	L													N	S	T	T	H	G	I	R
R	N	R	T	N	I	O	P													G	O	T	N	J	I	N	J
T	M	W	I	P	O	N	J													I	N	B	M	E	X	T	R
I	K	T	Y	O	L	D	L													T	O	L	B	D	J	I	Y
V	L	E	R	M	I	C	O													U	M	O	N	E	Y	E	W
P	O	R	B	V	A	E	M													D	R	I	U	N	M	E	R
C	P	R	I	A	P	S	K													E	X	T	V	E	R	A	W
Q	L	D	E	R	E	L	P													B	E	R	U	S	A	E	M
U	E	P	E	G	L	K	I													P	E	R	T	I	C	M	L
U	C	J	M	I	K	R	E													L	D	U	M	B	R	E	T
I	M	E	B	U	P	L	S													C	T	I	D	E	W	B	R
O	N	O	I	T	A	R	S													J	O	H	V	N	S	T	R
T	P	G	U	L	P	A	W													I	V	B	M	I	U	R	Y
G	I	S	U	M	H	J	A													N	P	O	K	L	S	E	W
G	H	I	J	D	L	F	K	D	E	O	P	R	N	O	M	W	A	S	M	M	A	S	R	T	Y	O	W
P	O	W	E	R	W	E	E	G	H	I	V	U	M	B	E	N	A	L	P	B	A	T	N	R	O	V	R
P	R	T	Y	M	N	G	R	G	P	F	M	S	A	T	B	V	R	U	T	I	M	T	R	E	W	R	T
R	R	E	N	K	R	L	R	T	Y	B	B	T	W	Q	U	E	S	Y	O	L	U	B	H	A	S	T	R
E	T	T	I	E	M	V	N	A	E	S	T	E	L	E	L	G	N	A	I	R	T	N	B	G	H	E	L
Y	E	R	E	M	B	T	Y	R	E	R	G	K	H	I	L	P	O	N	W	E	T	V	C	R	E	L	P
N	O	S	T	R	E	M	S	B	C	F	M	A	R	I	T	H	M	E	T	I	C	N	E	T	I	R	B

angle
arithmetic
centimeter
count
degrees
divide
divisor
ellipse
factor
intersect
latitude
length
logical
longitude
math
measure
money
multiples
numbers
obtuse
pair
perpendicular
plane
point
power
ratio
right
segment
sum
triangle

NAME _____ DATE _____

31. Definition Puzzle on Whole Number Terms

★ **Place the answers to this puzzle in their correct locations across or down. A Choice Box has been provided.**



ACROSS

1. When you multiply two numbers
3. A product of prime numbers
6. An expression related to numbers
7. Rent paid on borrowed money
11. Not up and down, but sideways
12. All of something
13. Not wrong
15. What you do to get an answer

DOWN

2. A number with two factors: itself and 1
4. The answer in a division problem
5. A line up and down or north and south
8. To find something
9. When you divide two numbers
10. Common sense
14. The result when you calculate

CHOICE BOX

prime	composite	logical	horizontal	division
answer	numerical	quotient	complete	interest
multiplication	locate	vertical	correct	calculate

NAME _____ DATE _____

32. Skills Mastery Test—Whole Numbers: Part One

★ **You will need extra (scratch) paper to calculate these test questions. Answer the following problems in the space provided.**

1. $14 + 14 =$
2. $741 + 748 =$
3. $927 + 784 =$
4. $327 - 149 =$
5. $672 - 298 =$
6. $454 - 350 =$
7. $737 \times 9 =$
8. $847 \times 19 =$
9. $928 \times 24 =$
10. $425 \div 5 =$
11. $510 \div 85 =$
12. $686 \div 7 =$

13. Start at the top and draw a line down to subtract only those numbers that will give you the number at the bottom.

7	9	14
8	4	13
3	2	7
2	9	1

7

14. Cross out all numbers divisible by 5.

5	21	95	25
11	10	36	92
64	19	7	200
60	65	70	20
15	75	84	18

15. $\begin{array}{r} 6714 \\ +\ 3271 \\ \hline \end{array}$

16. $\begin{array}{r} 6714 \\ -\ 3271 \\ \hline \end{array}$

17. $\begin{array}{r} 8452 \\ \times\ \ 52 \\ \hline \end{array}$

18. $\begin{array}{r} 4273 \\ \times\ 273 \\ \hline \end{array}$

19. $\begin{array}{r} 752 \\ 821 \\ +\ 947 \\ \hline \end{array}$

20. $\begin{array}{r} 7943 \\ \times\ \ 43 \\ \hline \end{array}$

21. $3\overline{)456}$

22. $9\overline{)702}$

23. $89\overline{)2047}$

24. $\begin{array}{r} 7772 \\ -\ 4449 \\ \hline \end{array}$

25. $\begin{array}{r} 47532 \\ -\ \ 9499 \\ \hline \end{array}$

NAME _____ DATE _____

33. Skills Mastery Test—Whole Numbers: Part Two

★ **Find the Greatest Common Factor of these number pairs:**

1. 15 and 21
2. 10 and 25
3. 12 and 32

★ **Find the Least Common Multiple of these number pairs:**

4. 2 and 7
5. 8 and 12
6. 27 and 45

★ **Round off the numbers below to the place indicated:**

	Nearest Thousand	Nearest Hundred	Nearest Ten
7. 4,539			
8. 8,315			

★ **Answer these problems:**

9. How many vowels (a, e, i, o, u) are there in this question? _____

10. Subtract 231,769,483 from 913,427,891. _____

11. Shade all those numbers that are divisible by 12:

36	14	60	99
84	32	96	98
86	24	48	72
89	94	62	144

12. Circle the prime numbers in the following line of numbers:
    7, 11, 14, 19, 2, 3, 88, 17, 9, 5

13. Find the square root of the numbers below:

    $\sqrt{9}$ $\sqrt{100}$ $\sqrt{81}$