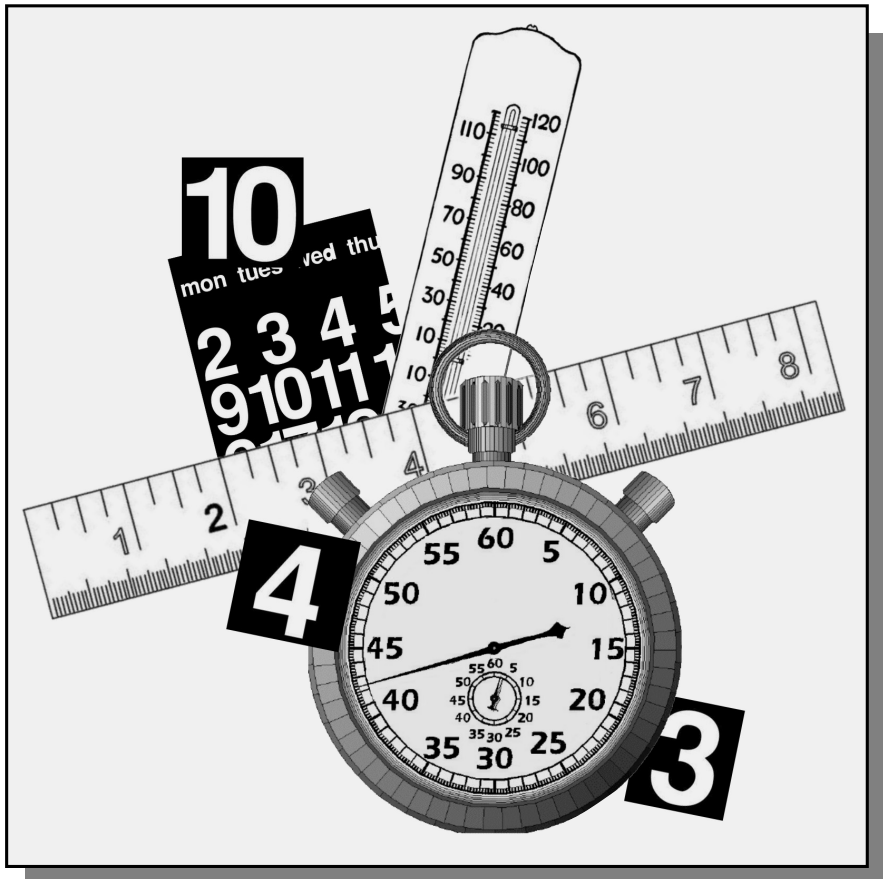
Basic Math Skills

Activities



Chapter 1

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

PROFESSIONAL CREDITS

Basic Math Skills

Chapter 1

Publisher and Managing Editor
Ronald E. Johnson, Ph.D.

Writers
Kermit Northcutt
David Browder

Technical Editor
David Browder

Activities Editor / QA
Nancy Johnson

Production Manager
H. Michael Young

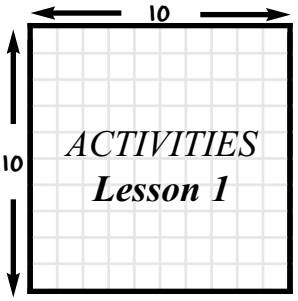
Page Composition
Debbie L. Dial
Kathy L. Dial
Pamela K. Hurst
H. Michael Young

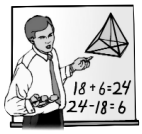
Graphic Artists
Kathy L. Dial
Pamela K. Hurst
Kristin Odom
Lydia Seals
Don Ward
Dan White
H. Michael Young

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Name: _____

Date: _____ Grade: _____





Fundamentals

Addition

You are making progress! ***Answer the following questions. Choose the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

Read the Introduction, then answer questions 1-9.

1. We use mathematics everyday for currency exchange, _____ and _____.

2. The fun in a riddle is in the _____ of it.

3. Mathematics began as simply _____ or _____.

4. Without mathematics the Egyptians could not have built the _____.

5. Early civilizations used mathematics in an attempt to explain the _____.

6. Many early mathematicians worked problems just for _____.

7. In history books, writers use _____ to give an idea of when certain events took place in relation to other events.

8. How many years passed between Ponce de Leon's travels and those of Cabeza de Vaca? _____

9. People can calculate quantities of objects because _____ have _____ values.

10. Mathematics can be _____ and _____.

11. Math is basic to every vehicle that _____ you.

12. The Identity ***Property*** of Addition states that the _____ of any number and _____ is the number.

13. The ***sum*** is the _____ to an addition problem.

14. Which of the following is an example of the Identity Property of Addition? _____
(a) 3 + 1 = 4 (b) 5 + 6 = 11 (c) 2 + 0 = 2 (d) 4 + 2 = 6 (e) 5 + 5 = 10

15. Two numbers added together in either order without changing the sum is called the _____ of _____.

©Copyright 2005, Paradigm Accelerated Curriculum

DUPLICATION BY WRITTEN PERMISSION ONLY.

16. Which equation below is **NOT** an example of the Commutative Property of Addition?

_____

(a) 4 + 1 = 2 + 3
(b) 8 + 9 = 9 + 8
(c) 7 + 5 = 5 + 7
(d) 1 + 1 = 1 + 1
(e) 6 + 3 = 3 + 6

Add the following.

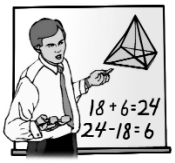
17. 8 + 1	**18.** 1 + 6	**19.** 7 + 1	**20.** 4 + 4	**21.** 5 + 1	**22.** 2 + 3
23. 6 + 2	**24.** 5 + 3	**25.** 4 + 5	**26.** 2 + 3	**27.** 2 + 6	**28.** 2 + 2
29. 1 + 8	**30.** 3 + 6	**31.** 2 + 5	**32.** 4 + 3	**33.** 2 + 5	**34.** 1 + 3
35. 0 + 5	**36.** 2 + 4	**37.** 3 + 5	**38.** 2 + 1	**39.** 5 + 4	**40.** 9 + 0
41. 2 + 7	**42.** 6 + 2	**43.** 3 + 3	**44.** 8 + 1	**45.** 7 + 2	**46.** 4 + 3
47. 4 + 2	**48.** 5 + 3	**49.** 1 + 4	**50.** 3 + 2	**51.** 2 + 2	

52. Write the **Life Principle**: "_____
_____."

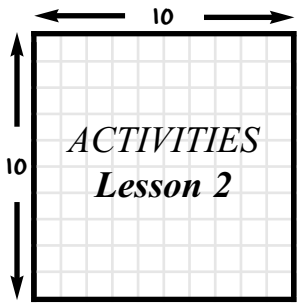
©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Name: _____

Date: _____ Grade: _____



Fundamentals



Valuable Places

You are making progress! ***Answer the following questions. Choose the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. A _____ exists for everything and everything has its _____.

2. Firemen need to store their tools properly to work more _____ and _____.

3. The simplest numbers to add together are _____.

4. A _____ is one of the symbols, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.

5. _____ is the value placed on the ***digits*** of a number.

6. The ***decimal point*** can be thought of as a _____ on a shelf.

7. Numbers can be thought of as _____on a shelf.

8. In the number 87,346 of Example Set 1, the digit, 8, is in the _____ place.

9. When adding two numbers together, as in Example Set 2, the digits are lined up correctly by lining up the _____ points.

10. When adding 64 + 3, a _____ is placed in the space in front of the 3.

11. When not shown, the decimal is always understood to be to the _____ of the last digit.

12. In Example Set 3, the decimal points are understood to be to the _____ of the last digit of each number, including the sum.

13. 76 + 2 = _____ + _____ = _____

14. Example Set 4 shows that the same process is used when adding numbers with more digits. _____ (a) True or (b) False

15. In Example Set 4, the digits are lined up in their proper ***place value*** columns, because the _____ have been aligned.

16. 61 + 28 = _____

©Copyright 2005, Paradigm Accelerated Curriculum

DUPLICATION BY WRITTEN PERMISSION ONLY.

Add the following numbers to demonstrate that you understand place value and decimals.

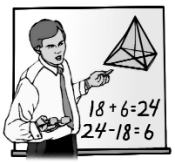
17.	17. + 2.	**18.**	27. + 0.	**19.**	92. + 0.	**20.**	87. + 12.	**21.**	22. + 5.	**22.**	65. + 4.
23.	15. + 4.	**24.**	84. + 12.	**25.**	56. + 41.	**26.**	88. + 11.	**27.**	74. + 2.	**28.**	3. + 16.
29.	23. + 35.	**30.**	32. + 45.	**31.**	58. + 31.	**32.**	11. + 6.	**33.**	54. + 5.	**34.**	14. + 14.
35.	16. + 12.	**36.**	31. + 16.	**37.**	66. + 3.	**38.**	16. + 2.	**39.**	35. + 42.	**40.**	45. + 22.
41.	22. + 11.	**42.**	51. + 6.	**43.**	26. + 3.	**44.**	65. + 23.	**45.**	33. + 22.	**46.**	52. + 21.
47.	99. + 0.	**48.**	49. + 30.	**49.**	28. + 41.	**50.**	44. + 2.	**51.**	55. + 12.	**52.**	74. + 23.
53.	27. + 40.	**54.**	16. + 13.	**55.**	95. + 3.	**56.**	32. + 57.				

57. Write the **Life Principle**: "_____
_____."

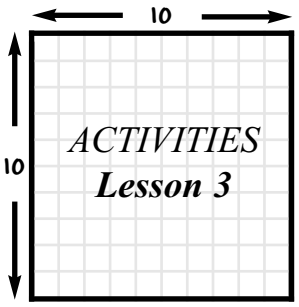
©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Name: _____

Date: _____ Grade: _____



Fundamentals



Multiple Digits

You are making progress! ***Answer the following questions. Choose the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. _____ is a branch of science the deals with the interactions of matter and energy.

2. A _____ is an educational institution above high school level.

3. A teacher at a college is called a _____.

4. ***Professor*** K indicated that too many times we live for the _____, not thinking of the future.

5. Choices we make today will affect us the rest of our _____.

6. If you study hard now, future lessons will _____ into place.

7. Addition of larger numbers is accomplished in the same manner as addition of smaller numbers. _____ (a) True or (b) False

8. By lining up the _____, the digits in each place value of each number are lined up.

9. When a number has no decimal point, a point is understood to be to the _____ of the last digit.
(a) right (b) left (c) inside (d) outside

10. In the sum of Example Set 1 b), the 6 is in the _____ place.

11. 15 + 183 = _____.

12. In the sum of Example Set 1 e), the 7 is in the _____ place.

13. In the sum of Example Set 1 g), the 7 is in the _____ place.

14. 864 + 135 = _____.

15. In the sum of Example Set 1 j), the 8 is in the _____ place.

16. When no number is in a certain place, the place value is considered to be _____.

©Copyright 2005, Paradigm Accelerated Curriculum

DUPLICATION BY WRITTEN PERMISSION ONLY.

Add these numbers to demonstrate that you understand addition of three digits with decimals.

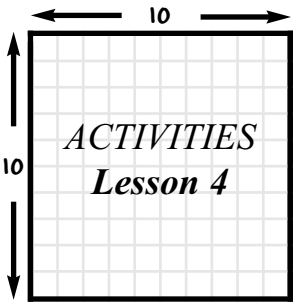
17. 345. + 24.	**18.** 365. + 234.	**19.** 562. + 31.	**20.** 484. + 212.	**21.** 258. + 31.	**22.** 123. + 51.
23. 594. + 203.	**24.** 123. + 23.	**25.** 755. + 244.	**26.** 786. + 13.	**27.** 724. + 63.	**28.** 475. + 124.
29. 415. + 72.	**30.** 642. + 241.	**31.** 254. + 441.	**32.** 555. + 33.	**33.** 333. + 515.	**34.** 746. + 13.
35. 354. + 100.	**36.** 888. + 111.	**37.** 782. + 15.	**38.** 462. + 226.	**39.** 731. + 31.	**40.** 351. + 540.
41. 622. + 64.	**42.** 358. + 21.	**43.** 800. + 158.	**44.** 429. + 20.	**45.** 246. + 123.	**46.** 325. + 53.
47. 657. + 42.	**48.** 652. + 222.	**49.** 314. + 62.	**50.** 533. + 346.	**51.** 892. + 102.	**52.** 321. + 73.
53. 871. + 128.	**54.** 641. + 40.	**55.** 757. + 1.	**56.** 472. + 111.	**57.** 854. + 45.	**58.** 586. + 312.
59. 858. + 41.	**60.** 753. + 221.	**61.** 429. + 510.	**62.** 456. + 12.	**63.** 516. + 253.	**64.** 232. + 27.

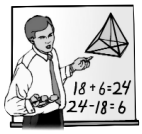
65. Write the **Life Principle:** "_____
_____."

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Name: _____

Date: _____ Grade: _____





Fundamentals

Subtract

You are making progress! ***Answer the following questions. Choose the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. When driving a car we learn that it can go in opposite directions: _____ and _____ or ***reverse***.

2. In math, the ***opposite*** operation of addition is _____.

3. The answer to a ***subtraction*** problem is called the _____.

4. In Example Set 1, the differences of the subtraction problems are: ___, ___, ___, and __.

5. Zero subtracted from a number gives a ***difference*** equal to the number. This type of equation is another way to state the _____ Property of _____.

6. Which of the following is an example of the Identity Property of Subtraction? _____
(a) 233 - 233 = 0 (b) 4 - 1 = 3 (c) 22 - 2 = 20 (d) 6 - 0 = 6 (e) 46 - 3 = 43

7. As with addition, subtraction problems align the _____ to keep the digits in their proper place values.

8. The subtraction is then performed on each column of numbers as _____ digits.

9. In Example Set 3, the decimal points are understood to be to the _____ of the last digit of each number.

Subtract these numbers to demonstrate your understanding of difference.

10.	9.	**11.**	29.	**12.**	17.	**13.**	82.	**14.**	6.	**15.**	4.
	- 1.		- 6.		- 1.		- 11.		- 1.		- 3.
16.	66.	**17.**	6.	**18.**	49.	**19.**	9.	**20.**	8.	**21.**	78.
	- 2.		- 6.		- 24.		- 6.		- 6.		- 8.
22.	18.	**23.**	36.	**24.**	14.	**25.**	5.	**26.**	69.	**27.**	53.
	- 8.		- 15.		- 5.		- 1.		- 5.		- 13.

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

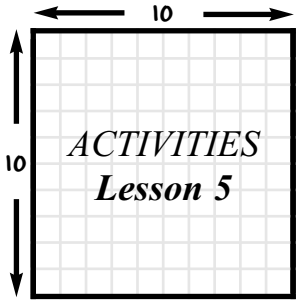
28.	55. - 35.	**29.**	12. - 3.	**30.**	9. - 7.	**31.**	25. - 1.	**32.**	67. - 21.	**33.**	79. - 32.
34.	88. - 11.	**35.**	7. - 6.	**36.**	17. - 2.	**37.**	44. - 20.	**38.**	87. - 12.	**39.**	37. - 25.
40.	5. - 5.	**41.**	15. - 4.	**42.**	68. - 15.	**43.**	68. - 24.	**44.**	58. - 31.	**45.**	8. - 7.
46.	28. - 7.	**47.**	96. - 35.	**48.**	56. - 45.	**49.**	45. - 15.	**50.**	8. - 6.	**51.**	57. - 5.
52.	14. - 14.	**53.**	16. - 12.	**54.**	47. - 23.	**55.**	8. - 3.	**56.**	16. - 2.	**57.**	43. - 42.
58.	45. - 22.	**59.**	25. - 12.								

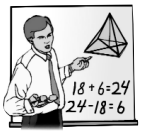
60. Write the **Life Principle:** "_____
_____."

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Name: _____

Date: _____ Grade: _____





Fundamentals

Carry On

You are making progress! ***Answer the following questions. Choose the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. Two basic purposes of banks are to provide services for "_____" money for safe keeping and "_____" money for making large purchases.

2. When adding, sometimes you need to _____.

3. When subtracting, sometimes you need to _____.

4. When two digits are added together, and the _____ is greater than 9, the digit in the *tens* place of the ***sum*** is _____ into the next higher place value.

5. The digit "carried" in Question #4 is placed in the column to the _____.

6. In Example Set 1, the 1 in each of the sums is in the _____ place.

7. In Example Set 2, the 1 in the sum of 15 + 6 is placed in which column? _____

8. In Example Set 2, the 8 in the sum of 56 + 26 is placed in which column? _____

9. In Example Set 3, the order matters when adding three or more numbers together. _____ (a) True or (b) False

10. Question # 9 is a statement of the _____ of _____.

11. Example Set 4 shows you how to add _____ numbers together.

Refer to Example Set 5 to answer questions 12-15.

12. The sum of the digits in the *ones* column is _____.

13. The sum of the digits in the *tens* column is _____.

14. The total sum of the problem is _____.

15. Addition with carrying can be used in addition of _____ numbers.

Refer to Example Set 6 to answer questions 16-17.

16. A _____ digit number is added to a _____ digit number.

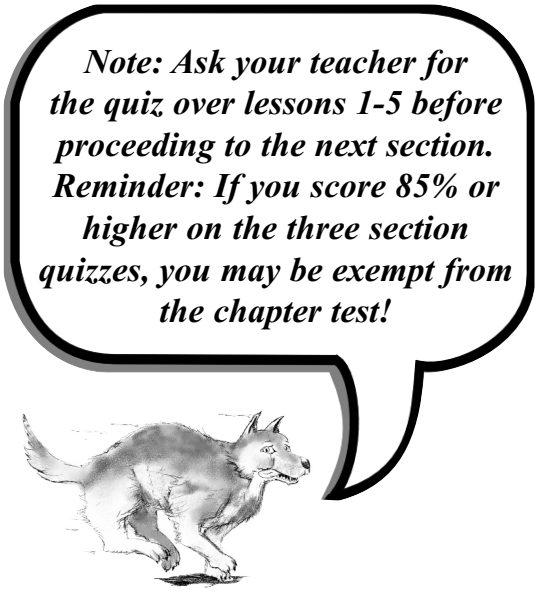
17. The total sum of the problem is _____.

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Work problems 18 - 47 to demonstrate your skill with two-digit addition following the Associative Property rule.

18. 549. + 25.	**19.** 689. + 52.	**20.** 287. + 34.	**21.** 541. + 29.	**22.** 875. + 85.
23. 623. 25. + 9.	**24.** 754. 31. + 27.	**25.** 286. 22. + 52.	**26.** 891. 37. + 15.	**27.** 555. 118. + 54.
28. 855. + 166.	**29.** 789. + 158.	**30.** 545. + 386.	**31.** 784. + 258.	**32.** 492. + 359.
33. 654. + 168.	**34.** 642. + 281.	**35.** 234. + 586.	**36.** 845. + 135.	**37.** 584. + 362.
38. 5842. + 579.	**39.** 7854. + 647.	**40.** 1257. + 864.	**41.** 3691. + 533.	**42.** 8522. + 599.
43. 4722. + 1179.	**44.** 8854. + 1647.	**45.** 2287. + 3264.	**46.** 65213. + 3333.	**47.** 17732. + 1599.

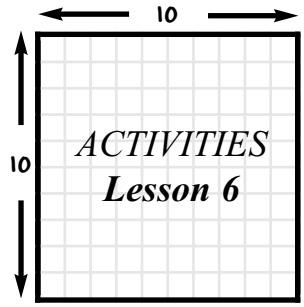
48. Write the **Life Principle:** "_____
_____."

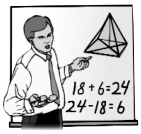


©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Name: _____

Date: _____ Grade: _____





Fundamentals

To Borrow, or Not

You are making progress! ***Answer the following questions. Choose the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. During subtraction, sometimes you must _____, or decrease the number in the column to the left by one.

2. In Example Set 1, _____ digits were subtracted from _____ digits.

3. Problem _____ (a, b, c, d, or e) in Example Set 1 has the largest difference.

4. The opposite of carrying is _____.

5. The principle of borrowing is often used when subtracting _____ numbers.

6. In Step 3 of Example Set 2, a *1* was borrowed from the *5*, changing it to *4*. The *2* then became _____.

7. 536 - 257 = _____

8. Subtraction problems can be checked for accuracy by using the opposite process of addition. _____ (a) True or (b) False

9. In Example Set 3, describe the process of checking subtraction problems: Working _____ from _____ to _____, add each column of numbers in the original _____ to the number you originally _____. If your original answer was _____, you will wind up with the _____ number on the original subtraction problem.

10. If you had to _____ in your original subtraction problem, you will have to _____ when you check it.

11. The subtraction in the *tens* column of Example Set 4 can be accomplished without borrowing. _____ (a) True or (b) False

12. The difference in the *hundreds* column is _____.

13. The difference of 764 and 3683 is _____.

14. In Example Set 5, did you have to ***borrow*** to subtract the digits in the *ones* column? _____ (a) Yes or (b) No

15. A _____ was borrowed from the *5* in the next step of Example Set 5.

16. In Step 3, the *5* is placed in the _____ place of the difference.

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Complete problems 17-40 to demonstrate your skill with carrying, borrowing and checking your work. Numbers 17-22 have been done for you; however some are incorrect. Check them according to Example Set 3, then write "C" for correct or "I" for incorrect on the line below each problem.

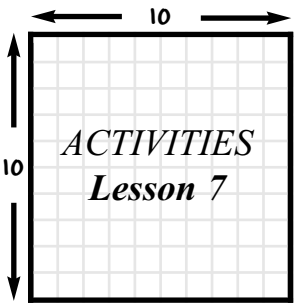
17.	947. - 53. 894	**18.**	541. - 82. 458	**19.**	872. - 25. 837	**20.**	902. - 13. 889	**21.**	543. - 16. 527	**22.**	555. - 29. 524
	_____		_____		_____		_____		_____		_____
23.	945. - 777.	**24.**	473. - 284.	**25.**	359. - 168.	**26.**	821. - 576.	**27.**	633. - 255.	**28.**	404. - 283.
29.	750. - 360.	**30.**	374. - 84.	**31.**	842. - 125.	**32.**	5842. - 753.	**33.**	8536. - 736.	**34.**	4560. - 25.
35.	587. - 392.	**36.**	123. - 27.	**37.**	9876. - 987.	**38.**	2451. - 282.	**39.**	7640. - 28.	**40.**	8777. - 888.

41. Write the **Life Principle:** "_____
_____."

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Name: _____

Date: _____ Grade: _____





Word Problems

Word Solutions

You are making progress! ***Answer the following questions. Choose the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. During times of great hardship such as the _____ or the _____, leaders had to make tough decisions.

2. Abraham Lincoln faced the problems of the ***Civil War*** with _____ and _____.

3. Mayor LaGuardia faced problems of thousands of people without_____ or _____.

4. Mayor Juliani faced serious problems on _____ when terrorists attacked the Twin Towers.

5. Lincoln, LaGuardia and Juliani relied on their belief in _____ and _____ to help them accomplish the tasks set before them.

6. You can solve math as well as personal problems in life if you develop basic skills and good _____.

7. _____ helps you in everyday life.

8. Life is like a big a _____.

9. You would have to work a _____ to calculate the cost of repairing your car.

10. You should reread a problem until it is _____.

11. Change word problems into mathematical statements, using a formula, operation, or series of operations, by use of a _____.

12. You know what mathematical operation to use in your mathematical model by looking for _____ words.

13. What ***key*** words indicate that a word problem can be solved by addition? _____, _____, _____, _____, _____.

Use Example Set 1 to answer questions 14-18.

14. What words indicate the use of subtraction to solve a word problem? _____, _____, _____, _____, _____.

15. How many firemen did Mayor Juliani call to the disaster? _____

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

16. We are instructed to read the problem _____.

17. In the problem, the key words _____ helped you know you were working with an addition problem.

18. How many firemen and policemen were there combined? _____

Use Example Set 2 to answer questions 19-25.

19. How many questions are being asked? _____

20. How many times is the problem to be read? _____

21. How many total bottles were given to both boys combined? _____

22. The first two questions in the word problem are what type of problems? _____

23. The third question is what type of problem? _____

24. How many total bottles did the boys distribute all together? _____

25. How many more bottles did James distribute than did Robert? _____

Solve the following problems. Be sure to answer the question asked. Show all your steps toward obtaining a solution.

26. James drove to New York City last Friday. The trip required thirty minutes to travel from Princeton to Saddlebrook, where James stopped for 45 minutes to eat. Then he drove on to New York City, which required another 45 minutes. How many minutes were included in the drive (driving time only) to New York City last Friday? (Show your work)

Step 1 Minutes from Princeton to Saddlebrook _____

Step 2 Minutes from Saddlebrook to New York _____

Step 3 What math process should you use to find the answer? _____
Construct a math model (put the numbers in their proper places).

Step 4 _____

\+ _____

= _____total minutes of trip

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

27. Three restaurants provided emergency meals to firemen. The first restaurant provided 675 meals. The second restaurant provided 455 meals, and the third restaurant provided 245 meals. *How many* meals did the restaurants provide *all together*? (Show your work.)

_____ from restaurant # 1
\+ _____ from restaurant # 2
\+ _____ from restaurant # 3
= _____ total meals

28. In problem #27, *how many more* meals were provided by restaurant two than by restaurant three? (Show your work.)

_____ from restaurant # 2
\- _____ from restaurant # 3
= _____ how many more meals

29. A famous singer sold 2,455,000 copies of a patriotic recording. His next recording sold 1,455,000 copies. *How many more* copies of the first recording were sold than the second recording? (Show your work.)

_____ recording # 1
\- _____ recording # 2
= _____ how many more copies sold

30. The mayor of New York City wanted to find the *sum* of 36, 45, 22, & 16, which were the numbers of fireman on a shift. What process should he use? _____
What answer should he have gotten? (Show your work.)

= _____sum

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

31. What is the *difference* between 256 and 128? What process should be used? _____ (Show your work.)

= _____difference

32. An emergency truck can carry no more than 10,000 pounds of cargo. The cargo report lists the following crates and weights: crate #1-2500 pounds, crate #2-3500 pounds, crate #3-5000 pounds.

(a) The process or operation of _____ is used to find the total crate weight.

(b) The process of _____ is used to find the difference between the truck capacity and the total crate weight.

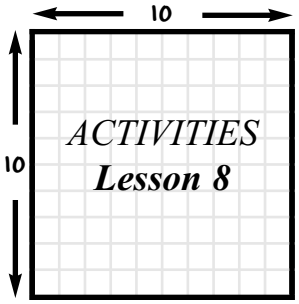
(c) Can the truck carry the load? Yes ____ No ____

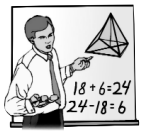
(d) How much over or under the weight limit is the cargo?
Over _____ Under _____ (Show your work.)

33. If a truck goes north for 487 miles, then turns around and goes south for 187 miles, how much further would the truck have to travel to arrive back at the original starting place? _____ miles (Show your work.)

34. Write the **Life Principle:** "_____
_____."

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.





Fundamentals

Multiply

You are making progress! ***Answer the following questions. Choose the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. The world experienced a period of time called the _____ during the 1800s.

2. The reaper was invented by _____.

3. Multiplication is a _____ to addition.

4. The _____ is the answer to a multiplication problem.

5. By studying Table 8.1 you can see that 2 + 2 + 2 + 2 = _____× _____ (which) = _____.

6. Two, multiplied by a number, produces the _____ answer as adding 2 to itself as many times as the number.

7. We need to _____ multiplication tables, such as Table 8.2.

8. Numbers that are multiplied together are known as _____.

9. 2 × 2 = _____, 4 × 5 = _____, 3 × 8 = _____, 6 × 11 = _____.

10. 5 × 9 = _____, 3 × 10 = _____, 4 × 4 = _____, 3 × 6 = _____.

11. 1 × 7 = _____, 2 × 12 = _____, 4 × 11 = _____, 1 × 12 = _____.

12. 6 × 9 = _____, 2 × 9 = _____, 5 × 6 = _____, 6 × 8 = _____.

13. Which of the following is an example of the Multiplication Property of Zero? _____
(a) 5 × 2 = 10 (b) 5 × 20 = 100 (c) 50 × 6 = 300 (d) 8 × 0 = 0

14. The _____ Property of _____ states that any number multiplied by one is that number.

15. What is the first ***product*** found in Example Set 4? _____

16. What is the second product found in Example Set 4? _____

17. What is the final product of 56 × 6? _____

Use Example Set 5 for questions 18-22.

18. In Step 2, what is the second product found in solving 256 × 32? _____

19. What is the first answer (in Step 3) that is obtained in order to get a final solution to the problem? _____

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

20. A zero is used in the second answer row (Step 4) to mark off the _____ place, so the new product lines up properly according to place value.

21. In Step 6, the product in the second answer row is _____.

22. The final product of 256 × 32 is _____.

23. When multiplying ***factors*** with a large number of digits we use the _____ process as multiplying factors with a small number of digits.

Complete these problems to demonstrate your understanding of multiplication.

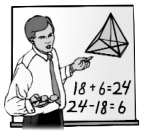
24. 5. × 5.	**25.** 25. × 6.	**26.** 14. × 3.	**27.** 52. × 6.	**28.** 6. × 4.	**29.** 6. × 3.
30. 66. × 5.	**31.** 15. × 6.	**32.** 22. × 15.	**33.** 24. × 3.	**34.** 5. × 6.	**35.** 23. × 5.
36. 25. × 6.	**37.** 44. × 32.	**38.** 51. × 5.	**39.** 2. × 6.	**40.** 33. × 55.	**41.** 55. × 15.
42. 56. × 35.	**43.** 113. × 5.	**44.** 3. × 4.	**45.** 125. × 3.	**46.** 253. × 26.	**47.** 456. × 35.
47. 456. × 35.	**48.** 366. × 24.	**49.** 5. × 1.	**50.** 412. × 22.	**51.** 532. × 25.	**52.** 364. × 13.
53. 444. × 25.	**54.** 6. × 6.	**55.** 15. × 4.	**56.** 64. × 12.	**57.** 621. × 43.	**58.** 123. × 22.
59. 4. × 0.	**60.** 51. × 16.	**61.** 455. × 44.	**62.** 222. × 45.	**63.** 36. × 24.	**64.** 53. × 6.
65. 54. × 0.	**66.** 241. × 30.	**67.** 265. × 15.	**68.** 145. × 23.	**69.** 56. × 21.	**70.** 521. × 256.

71. Write the **Life Principle:** "_____ _____."

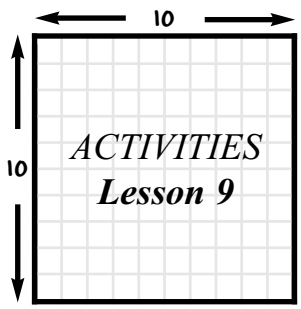
©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Name: _____

Date: _____ Grade: _____



Fundamentals



Multiply Even More

You are making progress! ***Answer the following questions. Choose the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. The Industrial Revolution is said to have ended in the early _____.

2. The director of the _____ once stated that because there were so many ***inventions***, nothing remained to be invented.

3. Multiplication facts should be _____.

4. 7 × 9 = _____, 12 × 5 = _____, 8 × 11 = _____, 10 × 11 = _____, 9 × 12 = _____

11 × 4 = _____, 9 × 9 = _____, 12 × 11 = _____, 12 × 4 = _____, 9 × 3 = _____

5. In Example Set 1, what mathematical property is demonstrated by 1 x 7?

_____

6. What is the product of 41 × 7? _____

Find the following products to demonstrate your knowledge of multiplication facts.

7.	7. × 5.	**8.**	8. × 6.	**9.**	9. × 3.	**10.**	7. × 8.	**11.**	9. × 9.	**12.**	8. × 6.
13.	8. × 8.	**14.**	9. × 6.	**15.**	7. × 9.	**16.**	8. × 3.	**17.**	76. × 8.	**18.**	49. × 5.
19.	83. × 8.	**20.**	75. × 9.	**21.**	89. × 7.	**22.**	88. × 6.	**23.**	81. × 9.	**24.**	92. × 8.
25.	68. × 5.	**26.**	59. × 7.	**27.**	49. × 8.	**28.**	77. × 7.	**29.**	67. × 5.	**30.**	456. × 8.

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

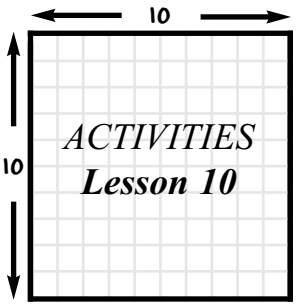
31. 366. × 9.	**32.** 99. × 1.	**33.** 71. × 22.	**34.** 83. × 25.	**35.** 69. × 13.	**36.** 78. × 25.
37. 29. × 11.	**38.** 48. × 33.	**39.** 87. × 15.	**40.** 97. × 43.	**41.** 76. × 22.	**42.** 549. × 0.
43. 812. × 79.	**44.** 855. × 78.	**45.** 222. × 77.	**46.** 8754. × 152.	**47.** 53. × 6.	**48.** 59. × 0.
49. 246. × 30.	**50.** 265. × 15.	**51.** 145. × 28.	**52.** 56. × 21.	**53.** 521. × 256.	**54.** 271. × 242.
55. 6520. × 136.	**56.** 2463. × 333.				

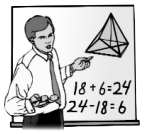
57. Write the **Life Principle:** "_____
_____."

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Name: _____

Date: _____ Grade: _____





Fundamentals

No Remains, Division

You are making progress! ***Answer the following questions. Choose the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. _____ is the opposite operation from multiplication and a _____ to subtraction, enabling you to subtract much more _____.

2. _____ is the process by which a number is split into equal parts.

From Example Set 1, label the parts of each division problem in questions 3 and 4.

3. (a) 16 ÷ 4 = 4

_____ ÷ _____ = _____

(b) This division problem, written in equation or sentence form, is read as "_____".

4. (a) (_____) → 5)15 ← (_____)
3 ← (_____)

(b) This ***division*** problem, written in this manner, is read as:
"_____"
or "_____".

5. In Example Set 2, how many times can six be divided equally in twos? _____

6. In Example Set 3, what is the ***quotient***? _____

7. How much is left over after the division process is completed in Example Set 3? _____

8. Dr. Panin discovered a mathematical _____ in parts of the Bible.

9. Dr. Panin determined that the number _____ or its multiples was important in this passage.

10. This unusual use of the number seven is interlaced throughout the _____ words.

11. What is the first *difference* found in Example Set 4? (26 - 21) _____

12. From Example Set 4, fill in the missing numbers: 266 ÷ ____ = 38; ____ ÷ 7 = 38; 266 ÷ 7 = ____.

©Copyright 2005, Paradigm Accelerated Curriculum

DUPLICATION BY WRITTEN PERMISSION ONLY.

13. Hebrew and Greek letters were used for _____ values.

Refer to Example Set 5 to answer questions 14-16.

14. Twenty-eight cannot divide into four, therefore a _____ is placed above the 4 to mark off the place.

15. How many times does 28 divide, or go into, 42? _____

16. Is 42,364 a multiple of 7? _____ (a) Yes or (b) No

Review questions. (17-18)

17. The division problems in this lesson involved quotients with no _____.

18. The 5 basic steps of *long division* are: _____, _____, _____, _____, _____.

19. The 5 steps are repeated over and over until the problem is finished. _____
(a) True or (b) False

Find the quotients. Be sure to keep your number columns straight.

20. $3\overline{)12}$ **21.** $5\overline{)25}$ **22.** $7\overline{)56}$ **23.** $2\overline{)26}$ **24.** $9\overline{)63}$

25. $6\overline{)54}$ **26.** $4\overline{)64}$ **27.** $8\overline{)32}$ **28.** $3\overline{)99}$ **29.** $4\overline{)48}$

30. $4\overline{)16}$ **31.** $2\overline{)24}$ **32.** $7\overline{)42}$ **33.** $5\overline{)45}$ **34.** $1\overline{)88}$

35. $6\overline{)30}$ **36.** $5\overline{)15}$ **37.** $4\overline{)28}$ **38.** $3\overline{)24}$ **39.** $5\overline{)75}$

40. $2\overline{)84}$ **41.** $7\overline{)35}$ **42.** $3\overline{)66}$ **43.** $6\overline{)36}$ **44.** $5\overline{)40}$

45. $2\overline{)242}$ **46.** $9\overline{)45}$ **47.** $3\overline{)39}$ **48.** $4\overline{)84}$ **49.** $7\overline{)77}$

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

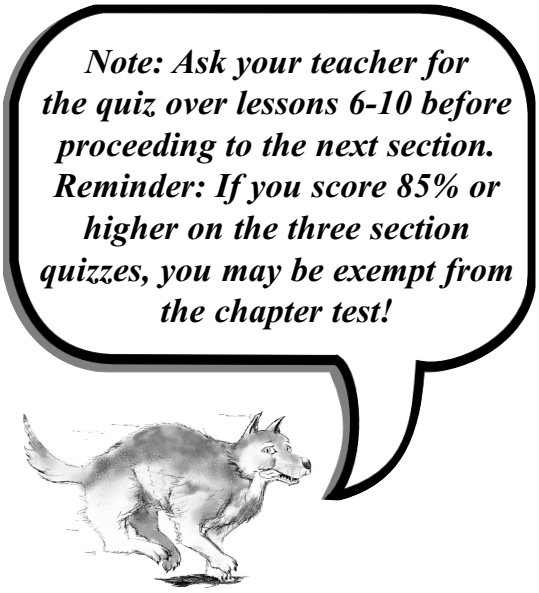
50. $5\overline{)95}$ **51.** $7\overline{)21}$ **52.** $3\overline{)81}$ **53.** $4\overline{)36}$ **54.** $8\overline{)80}$

55. $7\overline{)105}$ **56.** $4\overline{)496}$ **57.** $3\overline{)54}$ **58.** $2\overline{)144}$ **59.** $12\overline{)192}$

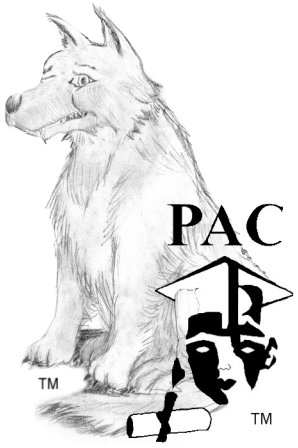
60. $11\overline{)121}$ **61.** $10\overline{)100}$ **62.** $12\overline{)72}$ **63.** $11\overline{)110}$ **64.** $7\overline{)84}$

65. $12\overline{)60}$ **66.** $11\overline{)99}$ **67.** $10\overline{)120}$ **68.** $11\overline{)132}$ **69.** $12\overline{)108}$

70. Write the **Life Principle:** "_____
_____."



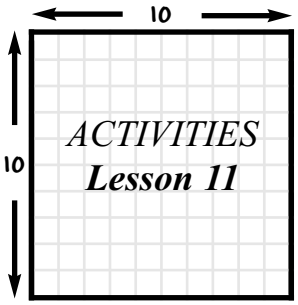
©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

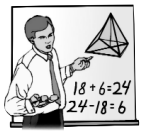


©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Name: _____

Date: _____ Grade: _____





Fundamentals

Remains, Division

You are making progress! ***Answer the following questions. Choose the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. How many people were in the group that shared the box of flowers? _____

2. A _____ is what is left over after a number has been evenly divided.

3. What is the ***remainder*** in the problem in Example Set 1? _____

Use Example Set 2 to answer questions 4-6.

4. How many times will 12 divide into 29? _____

5. What is the first quotient? _____

6. What is the product of 12 × 1 (in Step 2)? _____ What is the remainder of 149 ÷ 12? _____

Match the following division steps with their proper descriptions.

7. _____ divide (first time)

8. _____ multiply

9. _____ subtract

10. _____ compare

11. _____ bring down

12. _____ divide (start over)

(a) $7\overline{)266}$ (3; −21) — Find the difference of 21 from 26.

(b) $7\overline{)266}$ (3; −21; 5) — Difference must be smaller than divisor

(c) $7\overline{)266}$ (3) — How many times? Place answer above last digit in dividend into which divisor will go

(d) $7\overline{)266}$ (3; −21; 56) — Move the next number in the dividend into position

(e) $7\overline{)266}$ (3; −21) — 3 × 7 = 21

(f) $7\overline{)266}$ (38; −21; 56) — Continue the process.

©Copyright 2005, Paradigm Accelerated Curriculum

DUPLICATION BY WRITTEN PERMISSION ONLY.

Find the quotients and remainders. Be sure to keep your number columns straight.

13. $4\overline{)17}$ **14.** $5\overline{)29}$ **15.** $6\overline{)63}$ **16.** $3\overline{)26}$ **17.** $5\overline{)63}$

18. $6\overline{)57}$ **19.** $5\overline{)64}$ **20.** $7\overline{)32}$ **21.** $3\overline{)95}$ **22.** $4\overline{)58}$

23. $8\overline{)17}$ **24.** $2\overline{)25}$ **25.** $4\overline{)41}$ **26.** $9\overline{)47}$ **27.** $2\overline{)83}$

28. $6\overline{)21}$ **29.** $2\overline{)15}$ **30.** $5\overline{)29}$ **31.** $3\overline{)22}$ **32.** $4\overline{)99}$

33. $4\overline{)87}$ **34.** $7\overline{)25}$ **35.** $3\overline{)56}$ **36.** $5\overline{)33}$ **37.** $3\overline{)40}$

38. $6\overline{)245}$ **39.** $7\overline{)45}$ **40.** $3\overline{)29}$ **41.** $2\overline{)63}$ **42.** $8\overline{)67}$

43. $5\overline{)78}$ **44.** $7\overline{)32}$ **45.** $3\overline{)71}$ **46.** $5\overline{)36}$ **47.** $8\overline{)73}$

48. $6\overline{)103}$ **49.** $3\overline{)496}$ **50.** $4\overline{)54}$ **51.** $3\overline{)144}$ **52.** $11\overline{)181}$

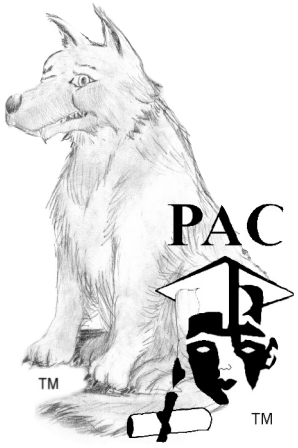
©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

53. $11\overline{)131}$ **54.** $10\overline{)107}$ **55.** $11\overline{)71}$ **56.** $8\overline{)97}$ **57.** $8\overline{)85}$

58. $11\overline{)60}$ **59.** $11\overline{)89}$ **60.** $9\overline{)112}$ **61.** $10\overline{)123}$ **62.** $12\overline{)145}$

63. Write the **Life Principle:** "_____
_____."

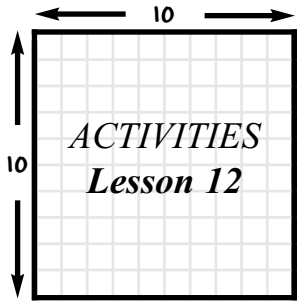
©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.



©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Name: _____

Date: _____ Grade: _____





Word Problems

More Story Problems

You are making progress! ***Answer the following questions. Choose the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. In the 1900s, wars and ***economic depressions*** became a _____ problem.

2. Computers helped make the world "_____."

3. _____ helps nations balance their budgets.

4. The two major systems of measurement in the world are the: _____ and the _____.

5. You do not have to follow certain steps to solve a word problem. _____
(a) True or (b) False

6. If the sum of a series of numbers is divided by the total quantity of numbers, you have found the _____.

7. Seeing the word, *quotient*, in a word problem would mean _____ is the operation which you need to set up in your mathematical model.

8. The word, *product*, in a word problem means a _____ operation is to be performed somewhere in working the problem.

9. Seeing the words, *divided by* or *average*, in a story problem means _____.

10. How many days did Mary work in Example Set 2? _____

11. The total amount of money Mary earned was
_____ dollars/day × _____number of days = _____ total earned.

12. List the two words given in Example Set 3 to indicate which math operations were to be used. _____, _____

13. The two operation words in #12 (above) mean what two mathematical operations?
_____ and _____

14. In Example Set 4, what is the quotient of the division portion of the problem? _____

15. What is the difference and final answer to the problem in Example Set 4? _____

16. Robert took _____ tests in Example Set 6.

17. What was Robert's highest test grade? _____

©Copyright 2005, Paradigm Accelerated Curriculum

DUPLICATION BY WRITTEN PERMISSION ONLY.

18. What was Robert's test average? _____

Find the solutions to the following problems. Show your work in the space provided.

19. Both James and Robert have savings accounts. James has $75 in his savings account. Robert has three *times* as much money in his savings account as does James. How much money does Robert have? (See Example Set 2.) _____

20. If a zookeeper provided 30,000 pounds of food for 600 animals, what would be the *average* amount of food for each animal? (See Example Set 6.) _____

21. James and Robert took a trip to raise money for the families of firemen who died in the 9-11 attack in New York City. The first day the boys traveled 175 miles. The second day they traveled 215 miles and the third day, 210 miles. On the *average*, how many miles did James and Robert travel each day? (See Example Set 6.) _____

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

22. James went to a convenience store down the street. He purchased four cans of orange juice for 75 cents each. He then purchased two bags of dried fruit for $1 each. How much money did James spend *altogether*? (Don't worry about sales tax.) (See Example Set 5.) _____

23. Write the **Life Principle:** "_____
_____."

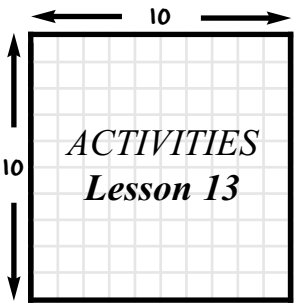
©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.



©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.



Converting



English Length

You are making progress! ***Answer the following questions. Choose the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. Math operations are used to measure _____, _____ and _____.

2. Nations in the world today use how many different systems of measurement? _____

3. The different systems of measurement are the _____ System and the _____ System.

4. _____ is defined as how long something is.

5. 12 inches = _____ foot; 1 rod = _____ yards; _____ feet = 1 mile

6. 3 feet = _____ yard. In Example Set 1, 3 feet also = _____ inches.

Use Tables 13.1 and 13.2 and Example Set 1 to find the answers for 7-20.

7. 1,760 yds = _____ mile(s)

8. ____ mile = 5,280 ft

9. _____ rods = 33 yds. What operation should you use to find out? _____

10. _____ inches = 2 yds. What operation should you use to find out? _____

11. 300 ft = _____ yds. What operation should you use to find out? _____

12. _____ ft = 3 yards. What operation should you use to find out? _____

13. 1760 yds = _____ feet. What operation should you use to find out? _____

14. 20 yds = _____ feet. What operation should you use to find out? _____

15. 72 inches = _____ feet. What operation should you use to find out? _____

16. _____ feet = 1760 yds. What operation should you use to find out? _____

17. 3 yds = _____ feet. What operation should you use to find out? _____

18. 108 inches = _____ feet. What operation should you use to find out? _____

19. 216 inches = _____ feet. What operation should you use to find out? _____

20. _____ yds = 3 miles. What operation should you use to find out? _____

21. What was the duration of James' hike in Example Set 2? _____

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Refer to Example Set 3 for questions 22 and 23.

22. Sometimes solutions require more than _____conversion to get the answer.

23. Two _____ operations were necessary in Example Set 3 to determine how many inches are in 2 miles. That number worked out to be _____ inches.

24. Refer to Example Set 4. To convert 5 miles into rods, you multiply _____ by _____.

Refer to Example Sets 3 and 4 as well as to Tables 13.1 and 13.2 to work questions 25-29. Show your work on this page in an orderly, numbered manner.

25. 320 rods = _____ miles

26. 1 rod = _____ yds

27. 6 miles = _____ rods

28. 640 rods = _____ miles

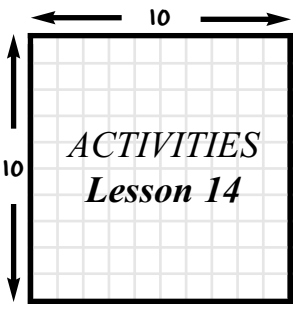
29. 320 rods = _____ feet

30. Write the **Life Principle:** "_____
_____."

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Name: _____

Date: _____ Grade: _____





Converting

Metric Length

You are making progress! ***Answer the following questions. Choose the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. The _____ is the basic unit of length in the metric system.

2. Different _____ are used to describe different lengths in the metric system.

3. *Deci*, d, is the ***prefix*** that means to multiply the unit by _____.

4. *Milli*, m, is the prefix that means to multiply by the unit by _____.

5. *Hecto*, h, is the prefix that means to multiply the unit by _____.

6. Multiplying by 1000 refers to the prefix, _____.

7. Multiplying by $^{1}/_{100}$ refers to the prefix, _____.

8. In the Directional Method of Converting, changing prefixes from left to right in the chart means to _____ by _____.

9. Fill in the blanks in the Directional Method of Converting chart below:

Abbr.	**km**	**hm**	_____	**m**	_____	**cm**	_____
Meaning	×_____	×_____	**× 10**	_____	**× 1/10**	×_____	**× 1/1000**
	→	_____			_____	←	

10. How many prefix moves are there in Example Set 1 a)? _____

11. The directional move in Example Set 1 b) is _____ places to the _____, which means to _____.

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Study, then complete the following Practice Set. Be sure to notice how the Directional Method of Converting is used in converting from one prefixed unit to another.

Practice Set

a) 5 cm = ___?___ mm

Requires 1 operation:

5 cm × 10 = _____ mm

b) 200 cm = ___?___ m

Requires 2 operations:

200 cm ÷ 10 = _____ dm

20 dm ÷ 10 = _____ m

c) 4 km = ___?___ dm

Requires 4 operations:

4 km × 10 = _____ hm

40 hm × 10 =_____dkm

400 dkm × 10 = _____m

4000 m × 10 = _____dm

d) 4500 cm = ___?___ m

Requires 2 operations:

4500 cm ÷ 10 = _____ dm

450 dm ÷ 10 = _____ m

Find the answers by using the Directional Method of Converting.

12. 1000 m = _____ kilometers(s)

13. 2 dkm = _____meters

14. _____ mm = 1 meter

15. 100 cm = _____ m

16. 2000 m = _____ km

17. _____cm = 20 mm

18. 2000 mm = _____ m

19. 40 dkm = _____cm

20. 3 hm = _____ m

21. _____ m = 3 km

22. 3500 dm = _____ dkm

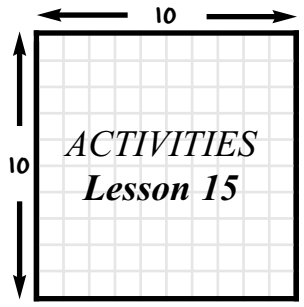
23. 6 km = _____ cm

24. 50 hm = _____ m

25. 4500 mm = _____dm

26. Write the **Life Principle:** "_____
_____."

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.





Converting

English Volume

You are making progress! ***Answer the following questions. Choose the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. In addition to length, another important ***measurement*** is _____.

2. _____ is how much space something occupies.

3. In the _____ System of measurement, ___ quarts = 1 gallon.

4. In Table 15.2, a _____ is the smallest unit (whole number) of volume measurement in the English System.

5. In Example Set 1, converting pints to quarts requires the mathematical operation of _____.

6. In Example Set 2, _____ is required to convert cups to tablespoons.

7. _____ multiplications were required to produce the desired conversion in Example Set 2.

Study, then complete the following Practice Set to see more examples of how to make English System conversions.

Practice Set

(a) 5 gal = ___?___ cups

Requires 3 operations:

5 gal × 4 = ____ quarts

20 quarts × 2 = ____ pt

40 pts × 2 = ____ cups

(b) 96 tsp = ___?___ pints

Requires 3 operations

96 tsp ÷ 3 = ____ Tbsp

32 Tbsp ÷ 16 = ____ cups

2 cups ÷ 2 = ____ pts

©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Answer questions 8-9 by referring to the Practice Set and Tables 15.1 and 15.2.

8. How many pints are in 5 gallons? _____

9. 63 tsp = _____ Tbsp

Find the answer. Remember to use the Directional Method of Converting as well as Tables 15.1 and 15.2.

10. 16 quarts = _____ pints

11. 4 tablespoons = _____ cups

12. 3 gal = _____ cups

13. 18 tsp = _____ T

14. 20 qts = _____ pts

15. 2 pts = _____ tsp

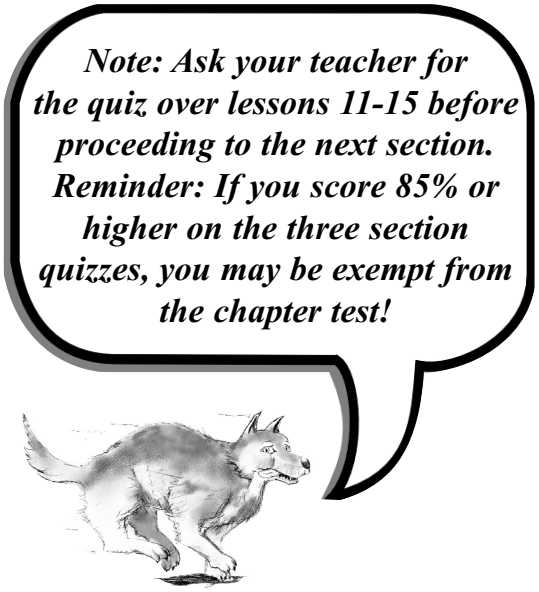
16. _____ cups = 10 pt

17. 8 gal = _____ pts

18. 1 gal = _____qts.

19. 4 cups = _____ pts

20. Write the **Life Principle:** "_____
_____."



©Copyright 2005, Paradigm Accelerated Curriculum DUPLICATION BY WRITTEN PERMISSION ONLY.

Basic Math Skills

Mathematics Charts

LENGTH - ENGLISH SYSTEM

12 inches	=	1 foot
3 feet	=	1 yard
5.5 yards	=	1 rod
320 rods	=	1 mile
1,760 yards	=	1 mile
5,280 feet	=	1 mile

VOLUME - ENGLISH SYSTEM

1 tablespoon, Tbsp, T	=	3 teaspoons, tsp
1 cup, c	=	16 tablespoons, Tbsp, T
1 pint, pt	=	2 cups, c
1 quart, qt	=	2 pints, pts
1 gallon, gal	=	4 quarts, qts

WEIGHT - ENGLISH SYSTEM

1 pound, lb	=	16 ounces, oz
1 hundredweight, cwt	=	100 pounds, lbs
1 ton	=	20 hundredweight, cwt
1 ton	=	2000 pounds, lbs

LENGTH - METRIC SYSTEM

1 meter	=	1,000 millimeters
1 meter	=	100 centimeters
1 kilometer	=	1,000 meters
1 centimeter	=	10 millimeters

VOLUME - METRIC SYSTEM

1 liter	=	1,000 milliliters
1 liter	=	100 centiliters
1 kiloliter	=	1,000 liters
1 centiliter	=	10 milliliters

WEIGHT - METRIC SYSTEM

1 gram	=	1,000 milligrams
1 gram	=	100 centigrams
1 kilogram	=	1,000 grams
1 centigram	=	10 milligrams

©Copyright 2005, Paradigm Accelerated Curriculum

DUPLICATION BY WRITTEN PERMISSION ONLY.

Mathematics Charts

PERFECT SQUARES

$\sqrt{1}=1$	$\sqrt{25}=5$	$\sqrt{81}=9$	$\sqrt{169}=13$
$\sqrt{4}=2$	$\sqrt{36}=6$	$\sqrt{100}=10$	$\sqrt{196}=14$
$\sqrt{9}=3$	$\sqrt{49}=7$	$\sqrt{121}=11$	$\sqrt{225}=15$
$\sqrt{16}=4$	$\sqrt{64}=8$	$\sqrt{144}=12$	$\sqrt{256}=16$

PERFECT CUBES

$\sqrt[3]{1}=1$	$\sqrt[3]{-8}=-2$	$\sqrt[3]{64}=4$	$\sqrt[3]{-125}=-5$
$\sqrt[3]{-1}=-1$	$\sqrt[3]{27}=3$	$\sqrt[3]{-64}=-4$	$\sqrt[3]{216}=6$
$\sqrt[3]{8}=2$	$\sqrt[3]{-27}=-3$	$\sqrt[3]{125}=5$	$\sqrt[3]{-216}=-6$

$$P = \frac{\text{the number of elements in the set containing favorable outcomes}}{\text{the number of elements in the sample set}}$$

$$\textit{Midpoint} = \left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$$

FORMULAS

Surface Area	Area	Volume	Perimeter/ Circumference	Others
Sphere: $A_s = 4\pi r^2$	**Triangle:** $A = {}^1\!/_2 bh$	**Sphere:** $V = {}^4\!/_3 \pi r^3$	**Perimeter of a Rectangle:** $P = 2w + 2l$	**Pythagorean Theorem:** $c^2 = a^2 + b^2$
Cylinder: $A_s = 2\pi rh + 2\pi r^2$	**Rectangle:** $A = l \times w$	**Cone:** $V = {}^1\!/_3 \pi r^2 h$	**Circumference of a Circle:** $C = 2\pi r$ or $C = \pi d$	**Convert to Fahrenheit:** $F = {}^9\!/_5 C + 32$
Cube: $A_s = 6s^2$	**Circle:** $A = \pi r^2$	**Rectangular Prism:** $V = l \times w \times h$		**Convert to Celsius:** $C = {}^5\!/_9 (F - 32)$
Lateral Surface Area of a Cone: $A_{ls} = \pi rl$	**Trapezoid:** $A = {}^1\!/_2 (b_1 + b_2)h$	**Square Pyramid:** $V = ({}^1\!/_3) lwh$		**Distance:** $d = r \bullet t$
		Triangular Prism: $V = {}^1\!/_2 bhl$		**Slope:** $y = mx = b$
		Cylinder: $V = \pi r^2 h$		**Simple Interest:** $I = prt$

©Copyright 2005, Paradigm Accelerated Curriculum

DUPLICATION BY WRITTEN PERMISSION ONLY.

Mathematics Charts

TIME CONVERSIONS

1 week = 7 days
1 year = 12 months

CONVERSIONS

English to Metric	
1 ounce (oz)	28.35 grams (g)
1 pound (lb)	454 grams (g)
1 ton (T)	907.2 kilograms (kg)

Metric to English	
1 gram (g)	.035 ounce (oz)
1 kilogram (kg)	2.2 pounds (lb)
1 metric ton (mt)	2200 pounds (lb)

English to Metric	
1 cubic inch	16.39 cubic cm
1 gallon	3.785 liters
1 cubic foot	28.316 liters
1 quart	.946 liters

Metric to English	
1 cubic cm	.061 cubic inch
1 cubic meter	35.315 cubic feet
1 liter	1.05 quarts
1 liter	.264 gallon

English to Metric	
1 inch	2.54 cm
1 foot	0.3048 meter
1 yard	0.9144 meter
1 mile	1.6 km

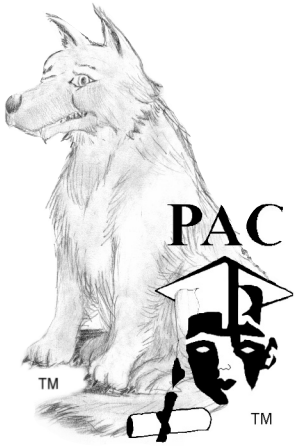
Metric to English	
1 centimeter	0.3937 in.
1 meter	39.37 in.
1 meter	1.09 yds
1 kilometer	0.6213 mile

AREA CONVERSIONS

1 square centimeter = 0.155000 sq in.
1 square meter = 10.763910 sq ft
1 square inch = 645.16 sq mm
1 square foot = 0.09290304 sq meter
1 square yard = 0.836127 sq meter
1 square foot = 144 sq in.

©Copyright 2005, Paradigm Accelerated Curriculum

DUPLICATION BY WRITTEN PERMISSION ONLY.



©Copyright 2005, Paradigm Accelerated Curriculum

DUPLICATION BY WRITTEN PERMISSION ONLY.