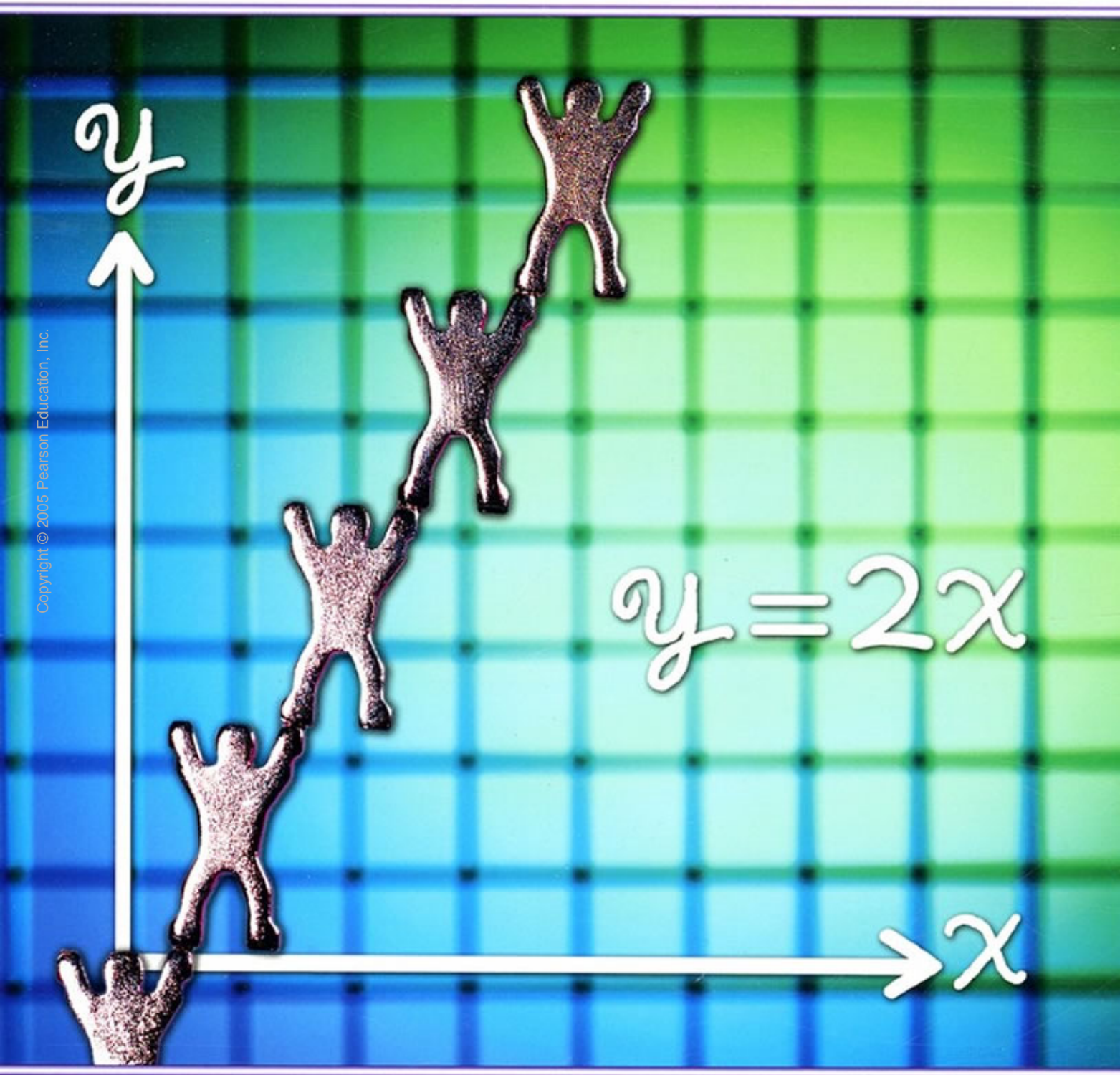
TEACHER'S EDITION Level F

MCP Mathematics



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CHAPTER 1

1 Addition Facts and Properties

pages 1–2

1 Getting Started

Objective
- To review addition facts and properties

Vocabulary
addend, sum, Cummutative Property, Associative Property, Identity Property

Materials
addition fact cards; counters

Warm Up • Mental Math
Have students find each sum.

1. 3 + 4 (7)
2. 2 + 7 (9)
3. 5 + 1 (6)
4. 8 + 2 (10)
5. 3 + 2 (5)
6. 6 + 2 (8)
7. 4 and 4 (8)
8. 4 and 2 plus 1 (7)

Warm Up • Activity
Use addition fact cards to review basic addition facts through 9 + 9. Divide the class into two teams. A team's score is the number of facts answered correctly in three minutes.

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Name _____

CHAPTER 1

Basic Facts

Lesson 1-1

Addition Facts and Properties

It's Algebra!

The Cubs won the Little League District Championship. How many games did they play?

	Won	Lost
Cubs	9	6
Pirates	8	7
Cards	5	9
Giants	6	8

We want to know how many games the Cubs played.

We know the Cubs won 9 games and lost 6 games.

To find the total games played, we add the games won and the games lost. We add 9 and 6.

9 + 6 = 15
addends, sum

The Cubs played 15 games in all.

Understanding the basic properties of addition makes it easier to find sums.

Commutative Property
Two numbers can be added in any order without affecting the sum. Addends can be grouped in any order without affecting the sum.

Associative Property
Addends can be grouped in any order without affecting the sum.

Identity Property
When zero is one of two addends, the sum is the other addend.

Getting Started

Find each sum.

1. 6 + 4 = 10
2. 8 + 8 = 16
3. 9 + 0 = 9
4. 7 + 1 = 8

Add. Check by adding in the reverse order.

5. 3 + 8 = 11
6. 5 + 4 = 9
7. 9 + 2 = 11
8. 7 + 1 + 8 = 16
9. 3 + 6 + 5 = 14
10. 7 + 8 + 0 = 15

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2 Teach

Introduce the Lesson Ask a student to read the problem aloud and tell what is to be solved. (how many games the Cubs played) Have students tell what they need to know to solve the problem. (number of games won and lost) Ask where this information can be found. (in the chart) Have students tell what facts are known. (The Cubs won 9 games and lost 6 games.) Have students complete the sentences as they read aloud with you to solve the problem.

Develop Skills and Concepts Recall that addition involves joining together two or more groups to find a total. Stress that the groups being joined are called *addends* and that the total is the *sum*. The groups need not be the same size. Write an addition fact in both vertical and horizontal form. Discuss each of the addition properties. Have students write examples of each property on the board. Reinforce the properties by having students use counters to demonstrate these properties:

$2 + 4 = 4 + 2$

$7 + 0 = 7$

$(3 + 1) + 5 = 3 + (1 + 5)$

It's Algebra! The concepts in this lesson prepare students for algebra.

3 Practice

Have students complete all the exercises. Before they begin, be sure students understand the directions for each section. Remind them to include the units with their answers to each word problem. Then, have students complete the page independently.

Practice

Find each sum.

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

Add. Check by adding in the reverse order.

21. 9 + 5 = 14	22. 6 + 6 = 12	23. 0 + 0 = 0	24. 7 + 4 = 11	25. 8 + 6 = 14	26. 5 + 2 = 7
27. 4 3 + 2 = 9	28. 1 6 + 8 = 15	29. 6 3 + 5 = 14	30. 8 1 + 3 = 12	31. 5 0 + 8 = 13	32. 5 2 + 5 = 12
33. 0 + 9 = 9	34. 5 + 1 = 6	35. 2 + 4 = 6	36. 8 + 3 = 11	37. 4 + 6 = 10	38. 8 + 8 = 16

Problem Solving

Solve each problem.

39. Chris paid $6 to see a football game. He paid $2 to park his car. How much did he pay altogether?
$8

40. Ellie scored 3 soccer goals in the first half and 2 soccer goals in the second half. How many goals did Ellie score?
5 goals

41. In a football game, Walt scored a field goal for 3 points. Hal ran for a touchdown and kicked the extra point for 7 points altogether. How many points did both boys score?
10 points

42. Mickey ran 5 kilometers on Monday, 3 kilometers on Tuesday, and 8 kilometers on Friday. How far did he run during the week?
16 kilometers

43. Annie earned $5 babysitting on Friday and $9 on Saturday. How much did she earn in all?
$14

44. Ryan's ski class met for 2 hours before lunch and 1 hour after lunch. How many hours did he ski with his class?
3 hours

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4 Assess

Use addition fact cards to assess students on the more difficult teen facts.

For Mixed Abilities

Common Errors • Intervention

Some students may not have mastered all of the addition facts. Have them work with partners to make their own fact cards for those facts that give them trouble. Have partners take turns practicing with these fact cards. Then collect the fact cards from each pair of students and use them with the whole class, suggesting that these are facts that are frequently missed.

Enrichment • Number Sense

Have students work in pairs. Provide 3 number cubes for each pair of students. One student rolls two number cubes and gives the sum. The other student rolls a number cube and adds that number to the sum given by the first student.

More to Explore • Sets

Illustrate on the board or on a transparency an example of a Venn diagram using overlapping circles. For example, label one circle M and one circle F. Tell students to use a Venn diagram to illustrate their family including siblings, grandparents, aunts, uncles, and cousins, using their first names. Tell students circle M represents the members of their mother's side of the family, and is written M = { }. Circle F represents their father's side of the family, and is written F = { }.

Ask which members belong to both Sets M and F. (the student and siblings) Point out that whenever elements belong to both sets, it is the *intersection* of the two sets. Whenever the elements of both sets are combined, it is the *union* of both sets. Have students list the names of those family members that represent the intersection of the two sets and the names of those family members that represent the union of the two sets.

1-2 Subtraction Facts and Properties

pages 3–4

1 Getting Started

Objective
- To review subtraction facts and related addition facts

Vocabulary
minuend, subtrahend, difference, inverse operation, fact family

Materials
*subtraction fact cards; sets of strips with dots on them to represent each number 1–9

Warm Up • Mental Math
Have students find each difference.

1. 6 − 4 (2)
2. 8 − 5 (3)
3. 9 − 7 (2)
4. 12 − 4 (8)
5. 7 − 3 (4)
6. 10 − 5 (5)
7. the difference between 11 and 6 (5)
8. the difference between 13 and 7 minus 2 (4)

Warm Up • Activity
Use subtraction fact cards to review basic subtraction facts. Divide the class into two teams. A team's score is the number of facts correctly answered in three minutes.

Name _____

Lesson 1-2

Subtraction Facts and Properties

It's Algebra!

Lynn is buying a new calculator. She pays for it with a ten-dollar bill. How much change will she receive?

We want to know how much change Lynn will receive.

We know she gives the clerk $10 and the calculator costs $7.

To find the difference, we subtract the cost of the calculator from the amount Lynn has. We subtract $7 from $10.

$10 − $7 = $3

minuend subtrahend difference

Lynn receives $3 in change.

Understanding the relationship between addition and subtraction makes it easier to find sums and differences.

Addition and subtraction check each other. They are called **inverse operations**.

Any three numbers can be used to write four related facts called a **fact family**.

6 + 7 = 13	13 − 7 = 6	13 − 6 = 7	7 + 6 = 13

Using related facts helps you find missing numbers in equations.

7 + ? = 10 10 − 7 = 3

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Getting Started

Find each difference.

1. 11 − 3 = 8
2. 16 − 8 = 8
3. 4 − 0 = 4
4. 7 − 7 = 0

Solve. Check by using the inverse operation.

5. 8 − 5 = 3
6. 14 − 6 = 8
7. 0 − 0 = 0

Write the missing addend.

8. 6 + 3 = 9
9. 0 + 6 = 6

2 Teach

Introduce the Lesson Have a student read the problem aloud and tell what is to be solved. (how much change Lynn receives) Call attention to the picture and ask what information it provides. (the cost of the calculator) Have students complete the sentences to solve the problem. Emphasize the vocabulary and recall the use of the minus sign to indicate subtraction. Ask students how they might check the answer. (add $3 to $7) Discuss the Inverse Property and explain that addition can be used to check subtraction. Have students name other members of the fact family for 9 + 8. (8 + 9; 17 − 8; 17 − 9)

Develop Skills and Concepts Write **14 − 6** both vertically and horizontally on the board. Have students identify the *minuend* and *subtrahend*, and name the *difference*.

Recall that subtraction is used to determine how much is left or to compare two groups. Develop skill with the Inverse Property by having students complete the following problems:

4 + (2) = 6 (6) − 2 = 4
(2) + 4 = 6 6 − (4) = 2

It's Algebra! The concepts in this lesson prepare students for algebra.

3 Practice

Have students complete all the exercises. Before they begin, be sure students understand the directions for each section. Make certain that students can recognize the inverse of a given operation. Then, have students complete the page independently.

***indicates teacher demonstration materials**

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