

Math 365 Lecture Notes

Section 2.3 – Addition and Subtraction of Whole Numbers

★ The Operation of Addition

Definition:

- 1) Addition:
- 2) Addend:
- 3) Sum:

Situations that Involve Addition

- 1) Combining Sets
Problem:

Model:

- 2) Combining Measures (Number Line)
Problem:

Model:

Mastering Basic Addition Facts

- 1) Counting On
- 2) Doubles
- 3) Making 10's

★ Less Than and Greater Than

Definition

- 1) Less Than
- 2) Greater Than

- 3) Less than or equal to
- 4) Greater than or equal to

Ways to Model Less Than

- 1) Number Line

★ Properties of Operations:

- 1) Closure:
- 2) Commutative:
- 3) Associative:
- 4) Identity:
- 5) Inverse:

★ The Operation of Subtraction

Definition

- 1) Subtraction:

Situations that Involve Subtraction

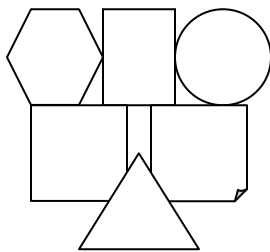
- 1) Take-Away:
- 2) Missing Addend:

3) Comparison:

4) Number Line:

Think of a number for the hexagon, the circle, and the triangle. Write the sums of each set of numbers in the squares. Give the completed drawing to your partner. It is his or her job to determine the original numbers. For example: Suppose the squares have the numbers 11, 13, and 14. What numbers were in the hexagon, circle, and the triangle?

Source: Teaching Elementary School Mathematics, C. Alan Riedesel, 1985, p. 113



Word Problems “Verbal problem solving has long been an area of elementary school mathematics instruction of great concern to teachers and the cause of much pupil anxiety. In the mid-1930s the average number of verbal arithmetic problems in fifth-grade textbooks was 676, as compared to 385 in the early 1970s and 209 in the mid-1970s.”

Source: Teaching Elementary School Mathematics, C. Alan Riedesel, 1980, p126

- You have \$1.00. You are going to buy one or more pencils, erasers, and paper clips at a stationery store. Pencils cost 10¢, paper clips are 2 for 1¢, and erasers cost 5¢ each. How much of each item will you buy if you have 100 items when you leave the store?
- A farmer didn't want his neighbor to know how many cows he had, so when the neighbor asked, he replied, “I have 35 cows and chickens. They have a total of 78 legs.” How many cows did the farmer have?
- Janet baked several cakes to sell in the neighborhood. She went to Mrs. Scott, who said, “I'll take one-half your cakes and one-half a cake more.” Janet gave Mrs. Scott a number of cakes (without cutting the cakes). Mrs. Scott went to the phone and called Mrs. Smith and Mrs. Black, telling them each to ask for one-half the cakes and one-half a cake more. Janet made these deliveries, and when she finished with Mrs. Black, she was out of cake. Note: She had not at any time cut a cake. How many cakes did Janet begin with?