

1.1 Understanding and Organizing a Problem

Chapter 1: Basic Problem Solving and Mathematical Modeling

Name: _____

Date: _____

Class/Period: _____

Problem 1.1 Directions:

Identify the goal and list the information that is useful.

A theater has 12 rows with 18 seats in each row. The stage is 30 feet wide. How many seats are in the theater?

Problem 1.4 Directions:

Identify the goal and list the information that is useful.

There are 84 students divided equally among 7 teams. Each team chooses a color. How many students are on each team?

Problem 1.2 Directions:

Identify the goal and list the information that is useful.

A warehouse stores 9 boxes on each of 14 shelves. Each shelf is 6 feet long. How many boxes are stored?

Problem 1.5 Directions:

Decide whether the problem has enough information.

A farmer places the same number of apples in 15 baskets. How many apples are used altogether?

Problem 1.3 Directions:

Identify the goal and list the information that is useful.

A club collected 275 cans on Monday and 318 cans on Tuesday. It used 12 tables during the collection. How many cans were collected?

Problem 1.6 Directions:

Decide whether the problem has enough information.

A bus makes 6 trips and carries the same number of passengers on each trip. How many passengers ride the bus?

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Problem 1.7 Directions:

Decide whether the problem has enough information. A store begins with 420 notebooks and sells some of them. How many notebooks remain?

Problem 1.9 Directions:

Solve the problem and explain whether any information is unnecessary.

A park has 7 picnic areas. Each area has 6 tables, and each table seats 8 people. The park also has 4 fountains. How many people can sit at the tables?

Problem 1.8 Directions:

Decide whether the problem has enough information. A class reads 18 pages on Monday and 24 pages on Tuesday. How many pages do they read in all?

Problem 1.10 Directions:

Solve the problem and explain whether any information is unnecessary.

A library owns 1,250 books. It donates 175 books and buys 240 new books. The library is open 6 days each week. How many books does it own now?

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Problem 1.11 Directions:

Solve the problem and explain whether any information is unnecessary.

A school orders 16 cartons of paper with 10 packs in each carton. It gives 45 packs to the art room. How many packs remain?

Problem 1.12 Directions:

Solve the problem and explain whether any information is unnecessary.

A camp has 5 cabins with 14 campers in each cabin. There are also 9 counselors. How many campers are at the camp?

Problem 1.13 A community center is preparing seats for a family event.

- The center has 18 rectangular tables.
- Each table can seat 6 people.
- The center also has 25 folding chairs that will not be placed at tables.
- A storage room contains 40 extra tablecloths.

Part A. Create a labeled model or write a sequence of equations that represents the total seating capacity.

Part B. Determine how many people can be seated altogether.

Part C. Explain why one of the given quantities is not needed in your model.