

1.6 Working Backward and Interpreting Remainders

Chapter 1: Basic Problem Solving and Mathematical Modeling

Name: _____

Date: _____

Class/Period: _____

Problem 1.85 Directions:

Work backward and check forward.

A number is multiplied by 5, then 18 is added. The result is 83. Find the number.

Problem 1.88 Directions:

Work backward and check forward.

A store has some boxes. It ships 36 boxes, receives 5 pallets of 12 boxes, and ends with 148 boxes. How many boxes did it begin with?

Problem 1.86 Directions:

Work backward and check forward.

A number is divided by 6, then 7 is subtracted. The result is 9. Find the number.

Problem 1.89 Directions:

Work backward and check forward.

A number is increased by 15, multiplied by 4, and becomes 140. Find the number.

Problem 1.87 Directions:

Work backward and check forward.

Marco has some cards. He buys 24 cards, gives away 17, and ends with 62. How many cards did he start with?

Problem 1.90 Directions:

Work backward and check forward.

A class has some pencils. It gives 8 pencils to each of 6 groups, receives 25 new pencils, and ends with 73 pencils. How many pencils did it begin with?

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Problem 1.91 Directions:

Divide and explain the meaning of the remainder.

A van holds 9 people. How many vans are needed for 74 people?

Problem 1.94 Directions:

Divide and explain the meaning of the remainder.

A theater row holds 14 people. How many rows are needed to seat 183 people?

Problem 1.92 Directions:

Divide and explain the meaning of the remainder.

A bakery has 158 rolls. Each tray holds 12 rolls. How many full trays can be filled, and how many rolls remain?

Problem 1.95 Directions:

Divide and explain the meaning of the remainder.

A factory packs 290 cans into cases of 24. How many full cases can be packed, and how many cans are left?

Problem 1.93 Directions:

Divide and explain the meaning of the remainder.

A teacher has 130 worksheets and gives 8 worksheets to each group. How many complete groups can receive worksheets?

Problem 1.96 Directions:

Divide and explain the meaning of the remainder.

A coach places 97 players into teams of 11. How many complete teams can be formed, and how many players remain?

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Problem 1.97 Directions:

Divide and explain the meaning of the remainder.

A school bus holds 44 students. How many buses are needed for 310 students?

Problem 1.98 Directions:

Divide and explain the meaning of the remainder.

A store has 365 bottles and displays 30 bottles on each shelf. How many full shelves can be filled, and how many bottles remain?

Problem 1.99 A grade level is planning a field trip for 287 students and 19 teachers. Each bus can carry at most 48 people. The bus company charges 420 dollars for each bus.

Part A. Create a model that determines the number of buses needed.

Part B. Determine the total cost of the buses.

Part C. A student claims that 6 buses are enough because $306 \div 48 = 6 \text{ R } 18$. Explain why the claim is incorrect and how the remainder affects the final cost.