

Leftover Crunchies

Name _____

John wanted to use his calculator to solve the following problem.

The Crunchy Cookie Company packages 24 cookies to a box. On Tuesday, 900 cookies were baked. How many boxes of cookies could be packaged? How many cookies remained unpackaged?

What should John enter into the calculator to find the answer? _____

What does the calculator display as the answer? _____

How many boxes of cookies were packaged? _____

How many of the 900 cookies were packaged? _____

How many of the 900 cookies are still unpackaged? _____

How many more cookies must be baked to complete the remaining box? _____

Use your calculator to solve the following problems.

1. At an egg packing plant, eggs are boxed in dozens. How many dozen eggs can be boxed if the plant has 400 eggs in stock? _____
2. A school with 895 students enrolled is planning a field trip for all the students enrolled in the school. The average school bus seats 42 students. How many buses are needed for the trip? _____
3. A stamp album holds 12 stamps per page. Mary Ann has 256 stamps to enter into the album. How many stamps will be entered on the last page containing stamps? _____
4. A punchbowl holds 6 gallons of punch. Kelly plans to use 15 ounce containers to store the punch. How many 15 ounce containers will she need? _____
How much more punch is needed to fill the last container? _____

Thinking Cap

In a division problem, if the dividend is 12548 and the quotient is 522.83333, what is the divisor and the remainder? _____

TEACHER NOTES: *Leftover Crunchies*

Objective: To solve problems involving interpretation of remainders.

Grade Level: 4-5

Topic: *Whole Number Operations/Problem Solving*

Using the Activity:

The calculator displays remainders to whole number division problems as decimal fractions. This activity is designed to teach students how to retrieve a whole number remainder from the display given. Students should work through the Crunchy Cookie problem using the calculator. Discuss the answers to the questions before having the students complete the other four problems on the sheet.

Answers:

What should John enter into the calculator to find the answer? $900 \div 24$

What does the calculator display? 37.5

How many boxes of cookies were packaged? 37

How many of the 900 cookies were packaged? $37 \times 24 = 888$

How many of the 900 cookies are still unpackaged? $900 - 888 = 12$

How many more cookies must be baked to complete the remaining box? $24 - 12 = 12$

Summarize how to obtain the whole number remainder from the calculator display.

First, [(whole number part of quotient) x divisor]

Second, subtract answer from dividend to get remainder.

$900 \div 24 = 37.5$; $[(37 \times 24)] = 888$; $900 - 888 = 12$ remainder

For the four problems, have students state what they entered into the calculator and what the calculator displayed in addition to giving the answer to the problem.

Answers: 1. 33 dozen 2. 22 buses 3. 4 stamps ($256 - (12 \times 21)$) 4. 52 containers; 12 ounces ($15 - (768 - (15 \times 51))$)

Thinking Cap

Students need to divide the dividend by the quotient to obtain the divisor and then subtract the product of the divisor and the whole number part of the quotient from the dividend to obtain the remainder. *Answer: divisor = 24, remainder = 20*

Extension

Have students complete $300 \div 24$ using both the calculator and paper and pencil. The calculator answer is 12.5, while the paper answer is $12\frac{1}{2}$. Ask students what the .5 in the calculator display represents. (*remainder*) What is that equivalent to in the paper and pencil computation? ($\frac{12}{24}$ or $\frac{1}{2}$) Discuss equivalence relationship.