

# Virginia Reads One Book<sup>®</sup>

## Math Examples for *The Toothpaste Millionaire* (2006) by Jean Merrill

### 1. Saddlebags – pages 7-9

Kate needs to buy  $2\frac{1}{4}$  yards of 36-inch-wide nylon. The nylon is 97 cents per yard at Vince's. How much will that cost? Don't forget to add in the sales tax.

#### Variations:

- Kate needs to buy  $2\frac{1}{3}$  yards of fabric. How many feet of fabric does she need to buy?
- Kate needs 3 yards of nylon is \$1.00 per yard. How much will it cost?
- If the total for the nylon is \$2.32, and Kate pays with a five-dollar bill, what will be her change?

### 2. Toothpaste – page 13 (Reasonable Prices)

Rufus is outraged at the prices of toothpaste at the drugstore. One tube cost 79 cents. Another tube cost 89 cents.

Go grocery shopping with one of your parents. What is the most expensive item that is purchased? Do you think that is a reasonable price? Compare the most expensive item to the least expensive item. Does each price seem reasonable?

### 3. Eye Shadow Savings – page 16

Kate decides NOT to buy eye shadow. Therefore, she saved 69 cents because she *didn't* buy it. If she saves that money every time she goes to the store, how much money will she save in one year? Ten years? What could she do with the money she saved?

What regular item does your family purchase that you could do without? Calculate the savings of NOT buying that item. How can you decide which item can be sacrificed?

### 4. New Profits - page 27

If the inventor of the new toothpaste made a profit of 1 cent on each tube of toothpaste, what would his profit be at the end of the year? (Refer to previous question.)

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## 5. More For Less - page 24

Rufus made about forty tubes of toothpaste for 79 cents. How much would forty tubes of the store brand toothpaste have cost? How much is the savings between the two?

Head to the store. Pick one item. Compare the name brand prices with the “generic” brand prices. Check the ingredients of each item. Is the more expensive item worth it? Which would you buy? Why?

## 6. Population – page 26

There are about 300 million people in the United States. If each of them uses one tube of toothpaste a month, how many tubes of toothpaste would that be in one whole year?

Variations:

- If there are twenty kids in your class, and each kid uses one tube of toothpaste each month, how many tubes is that in all at the end of the year?
- If there are four people in your family, and each person uses one tube of toothpaste each month, how many tubes is that? How many tubes is that in a whole year?

## 7. Tons of Paste - page 27

If there are about 2 ½ billion tubes of toothpaste sold in the U.S. in one year, and 1 out of every 10 people switched to a new brand, how many tubes of the new brand would they be buying?

Variations:

- If there are 500 lunches sold in your school cafeteria each day, and 1 out of every 10 kids decided to pack their lunch, how many extra hot lunches would be made?
- If 50 people in your school walk home each day, and one out of every 10 kids got a ride, how many walkers would there be that day?

## 8. Penny Profits - page 28

It costs Rufus one cent to make a tube of toothpaste. If he sells that tube of toothpaste for ten cents, what happens to the extra cents?

Variations:

- If Rufus sold each tube for 25 cents, how much profit would he make?
- If Rufus sold each tube for 79 cents, how much profit would he make?

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## 9. Friendly Stock - pages 38-39

When Rufus' friends worked for 100 hours helping make toothpaste, they received ONE share of stock? (Worth \$100)

- If Rufus makes \$2.5 million, each share of stock would earn \$2,500. Therefore, how much would an owner of two shares of stock make? How much would an owner of ten shares of stock make?
- How many hours would you have to work to receive two shares of stock?
- How many hours would you have to work to receive ten shares of stock?

## 10. Tons of Tubes - pages 43-44

Kate is looking for a birthday present for Rufus. She found tubes for 5 cents apiece. This seems like a good deal, however the company only sells the tubes in large quantities. How much would 10,000 tubes cost? How much would 50,00 tubes cost? How much would 100,000 tubes cost?

## 11. Gross! - pages 52-54

Kate paid \$5 for toothpaste tubes. She paid 10 cents per gross. How many gross did she buy?

A gross is a dozen dozen. How many is that?

Kate bought 50 gross of tubes. How many tubes is that?

## 12. Tons of Tubes Too! - page 56

Kate bought 7,200 tubes. Each one weighs about one ounce. There are sixteen ounces in one pound. How much did the tubes weigh?

Weigh yourself. How many ounces is that?

## 13. One Week - page 77

Rufus has sold over one thousand jars of Toothpaste in four weeks. How many jars is that per week? If he made a profit of 1 cent per jar, how much money has he already made?

## 14. Mail Money - page 85

It cost 10 cents a tube to mail the toothpaste to a customer. Mailing 12 tubes at once, the postage is cheaper, only 7 cents a tube. Compare a year's supply of Toothpaste purchased one month at a time with the price of purchasing a year's supply all at once. How much money is saved by purchasing a year's supply at a time?

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## 15. Loan - page 68

In order to operate the plant, Rufus must pay Hector to operate and maintain the machinery and rent to use the factory building.

Hector's salary is \$9,000.

Rent is \$3,600. (\$300 per month x 12 months)

If they get a loan for \$15,000 to pay the salary and the rent, how much will be left over to buy more tubes?

The kids know they will need about \$15,000 to start their business. Calculate the expenses Rufus will have if he buys the factory and hires Hector to manage the machines? What will his profit be after these expenses are paid?

If Hector's salary is \$9,000 per year, how much does he get paid each month? What would his amount be if he were paid every week?

## 16. Pounds of Money - page 88

Find out how much one toothpaste box weighs. How much would 250 million boxes weigh? How much is the postage for one ounce? How much would the postage be for one pound?

## 17. Price wars - page 98

A price war started between the big toothpaste companies. They kept dropping their prices to try and get more customers. If each customer bought one tube of toothpaste per month, how much money did they each save when the toothpaste companies cut their prices?

- Sparkle dropped from 69 cents to 58 cents. How much were its customers saving?
- Dazzle's price dropped from 63 cents to 57 cents. How much were its customers saving?
- Brite's price dropped from 59 cents to 53 cents. How much were its customers saving?

The lowest price dropped to 39 cents. This is still more expensive than Rufus' Toothpaste. How much more?