

Everyday Life Math



Topics Include:

Personal Care, Health, Getting Around,
Managing Time, Community, Thinking About the Future,
Thrifty Thinking, Sustaining the World

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Unit 1

Personal Care

Preview

How You Will Use This Unit

Taking care of yourself involves many different things. Hair care and dental care are just two examples. You probably also buy face and skin products, soaps, and other items. As you compare products and make choices, you will often use math. The math skills you use include mental math and estimation, basic operations, and even equations and statistics.



What You Will Do in This Unit

In this unit, math steps demonstrate how to solve problems. These steps can help you answer questions such as these:

You buy some shampoo and conditioner at the store. How can you quickly estimate the total cost?

Surveys are often used to find out what concerns people. The report of a survey tells you the total number of people who participated. How can you find the number of people in this survey who are concerned about their skin?

Your dental bill comes to \$250. How do you check that this is correct?

You write checks to buy items such as sunglasses or other things. How do you keep track of the amount of money you have left in your checking account?

What You Can Learn from This Unit

When you complete this unit, you will have used mathematics to solve problems related to personal care. These problems are similar to those that may actually occur in your daily life.

Lesson 1

Hair Care

Example You buy shampoo, conditioner, gel, a comb, and a brush.
Here are the prices of these items:

\$3 \$4 \$6 \$2 \$7

Use mental math to find the total cost of these items.

Solve

Step 1: Circle a pair of numbers that are easy to add mentally.

(**\$3**) \$4 \$6 \$2 (**\$7**)

Step 2: Draw a square around another pair of numbers that are easy to add mentally.

(**\$3**) [**\$4**] [**\$6**] \$2 (**\$7**)

Answer the Question

Step 3: You pay \$22 for the five products.

Now try these problems.

1. Selena buys a hair dryer, hair spray, a hair straightening product, and hair clips. Here are the prices of these items:

\$12 \$9 \$8 \$11

Mark pairs of prices as you use mental math to find the total cost.

Answer: Selena pays \$_____ for the four products.

2. Health club members use about 25 packets of shampoo a day. How many packets of shampoo will club members use in four 7-day weeks?

Think about which way to do this problem is easier:

$25 \times (4 \times 7)$ or $(25 \times 4) \times 7$

Circle the correct answer.

- A** 25 **C** 175
B 100 **D** 700

3. A special sale bottle of Today's Hair contains 10 fluid ounces and costs \$9.99. The label on the special bottle says you get 3 more fluid ounces than in a regular bottle, for the same cost. Draw a line from the list on the left to the list on the right to show a match between the ounces in a regular bottle and the cost of the regular bottle.

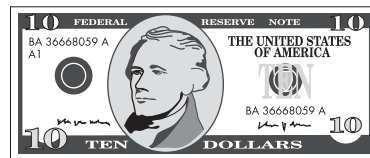
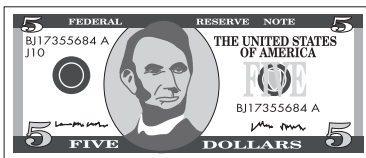
Ounces	Cost
13.5	\$9.99
10.2	\$6.99
7	\$12.99

4. Paul buys 16 ounces of *Wow!* hair-spiker styling glue. He shares it with his three brothers. The four boys each use about 1 ounce a week.

Estimate how long the styling glue will last.

Answer: _____

5. Bella takes a bottle of hair color to the checkout counter. Its price tag says \$4.89. Bella knows she has to pay a sales tax of 10%. Circle the smallest bill she can hand to the clerk to cover the total cost.



6. A 12-ounce bottle of *MegaVolume* costs \$11.89. Circle the best estimate of the price per ounce.

A \$0.50 B \$1 C \$2 D \$12

☆ Challenge Problem

You may want to talk this one over with a partner.

Teresa wants to have long hair by the start of the summer vacation on June 1. It is now October 1 and her hair is one inch below ear level. Hair grows at about $\frac{1}{2}$ inch per month. Will her hair be 10 inches below ear level by June 1? Explain your answer.

Lesson 2

Face & Skin Care

Example A survey of 1,589 girls showed three out of four are concerned about oily skin. What is a rough estimate of the number of girls concerned about oily skin?



Solve

Step 1: Underline the sentence that tells you the number of girls concerned about oily skin.

In a survey of 1,589 girls, three out of four are concerned about oily skin.

Step 2: Now write the same sentence, using the language of math.

$\frac{3}{4} \times 1,589$ are concerned about oily skin.

Step 3: $\frac{3}{4} \times 1,589$ is the same as $\frac{3 \times 1,589}{4}$.

Think about numbers that would be easy to calculate. Round 1,589 up to 1,600.

$\frac{3 \times 1,600}{4}$ is the same as $\frac{3 \times 1,600}{4}$.

1,200

Answer the Question

Step 4: About 1,200 of the girls surveyed are concerned about oily skin.

 **Now try these problems.**

1. Of 2,005 boys who took part in the same survey, one out of two is concerned about oily skin. What is a rough estimate of the number of boys who are concerned about oily skin? Think about rounding 2,005 up to a number that is divisible by 2.

Answer: About _____ boys are concerned about oily skin.

2. Wesley buys a scrub, a cleanser, and a lotion. He gets them gift-packed together for \$14.99, including tax. Wesley has \$44. Circle the number of gift packs he can buy.



3. The advertisement says, “Buy three products in a straight line and pay only \$15.50.”

Lotion \$5	Pumice \$6	Razor \$8.50
Dry skin kit \$10.50	Bandages \$3	Lip gloss \$2.25
Face scrub \$7	Razor blades \$6.50	Eye crayon \$4

Mark the three products you could buy that are worth the most.

4. Justin notices that a pack of cartridges lasts four weeks with his *ShaveMate* razor. A pack lasted only one week with his old *RazorSense* razor. A pack of cartridges costs \$20. How much money will Justin save in one year (52 weeks) using his *ShaveMate* razor? Circle the correct answer.

- A \$20 C \$780
B \$260 D \$1,040

A Board Game (for Two Players)

The goal of this game is to place six counters in a straight line—horizontally, vertically, or diagonally—on the game board. First, you create a fraction by tossing a number cube. Then you place a counter on the board to show the percent equal to that fraction.

Materials

Game board (on the next page), counters in two colors, one number cube.

Directions

1. Choose a counter color for each player. Sit with players around the game board.
2. Player 1 tosses the number cube. This number is the numerator of the fraction. The same player tosses again to get the denominator. (Make a note of this fraction on a sheet of scratch paper.) Then Player 1 places a counter on the game board in any one of the spaces which show a percent equal to that fraction. Player 2 checks the placement of the counter. If it is not correct, Player 2 gets to choose a correct space and move the counter there.
3. Player 2 then takes a turn doing the same thing, with Player 1 checking.
4. Players alternate turns and placing counters. If all the spaces for that percent are already covered, the player who tossed that fraction misses a turn.
5. The winner is the first player to have six counters in a straight line.

Before you play the game, try these warm-up problems.

1. If you have poison ivy or chickenpox, oatmeal and milk soap can help soothe your skin. The soap package says the ingredients are combined in the ratio 1:2. This ratio is the same as the fraction $\frac{1}{2}$. Put counters in all the space(s) on the game board that show a percent equal to this ratio.
2. In Shannon's middle school, 60% of the students say they use anti-bacterial soap at home. You want to put a counter on the 60% percent space on the game board. What two numbers do you have to get with the number cube?

Answer: _____ and then _____.

Game Board for *Soapy Percents*

		Numerator					
		1	2	3	4	5	6
Denominator	1	100%	200%	300%	400%	500%	600%
	2	50%	100%	150%	200%	250%	300%
	3	33.3%	66.7%	100%	133.3%	166.7%	200%
	4	25%	50%	75%	100%	125%	150%
	5	20%	40%	60%	80%	100%	120%
	6	16.7%	33.3%	50%	66.7%	83.3%	100%

Lesson 4

Dental Care

Example The total on Monika's dental bill reads \$310.

Dr. N.V. Cain, DDS 3901 Ivory Lane Crown, IA 55444		STATEMENT OF SERVICES RENDERED	
ACCOUNT NAME Monika Smith		Monday July 14, 2003	
PATIENT	CODE	DESCRIPTION	AMOUNT
Monika	150	Checkup	\$ 35.00
Monika	210	Full X-Ray	110.00
Monika	1110	Cleaning	65.00
Monika	4381	Two fillings	100.00 each
		TOTAL	\$310.00

Is this bill correct? What error was made by the person who wrote the bill?

Solve

Step 1: Write the expression and find the total dollar amount for the items on the bill. (Remember that Monika had two fillings.)

$$\$35 + \$110 + \$65 + (\$100 \times 2) = \$410$$

Step 2: Compare your total to the total on the bill.

$$\$410 \neq \$310$$

Answer the Question

Step 3: The bill is not correct. The charge is for only one filling, not two.

Now try these problems.

1. Earl has a checkup, a cleaning, and one filling. The clerk itemizes his bill. Fill in the total.

Checkup:	\$ 35
Cleaning	\$ 65
Filling:	\$100

Total: _____

2. Chelsea's insurance plan pays 20% of all dental costs. Chelsea has a checkup that costs \$35, two fillings that cost \$100 each, and a root canal that costs \$665. How much will Chelsea have to pay after the insurance plan has paid its part? Circle the correct answer.

A \$180 **B** \$450 **C** \$720 **D** \$900