



Multiple Purchases (Multiplying and Dividing)

Suggested time: 45 minutes

What's important in this lesson:

It is important for you to use rounding, estimation and calculations to complete each question. You will need to show your work so that the teacher can understand where your final estimated and calculated values came from.

Complete these steps:

1. Read through the Lesson portion of the package independently.
2. Complete the required 'Practice' questions.
3. Seek assistance from teacher as needed. If you have questions about the examples or the 'Practice' questions.
4. Use 'Practice' Answer Keys to check their answers as they work through the package. If you are making errors, have your teacher review these questions with you.
5. Complete the Multiple Purchases Assignment

Hand-in the following to your teacher:

1. Practice Problems from the Student Handout.
2. Multiple Purchases Assignment.

Questions for the teacher:



Multiple Purchases Multiplying and Dividing

For this lesson, sales taxes do not need to be included!

Part A - Unit Pricing (DIVISION)

Example

1. A case of 24 juice cans costs \$6.99. Find the cost of 1 can of juice.

$$\begin{aligned} \text{COST of 1 CAN} &= \text{TOTAL COST} \div \text{NUMBER of CANS} \\ &= \$6.99 \div 24 \\ &= \$0.29125 \end{aligned}$$

BUT WHAT DOES THIS MEAN???

Well, let's ROUND to the nearest CENT!

$$= \$0.29$$

So, each can costs (approximately) \$0.29 (or 29¢)

2. Four friends share a lottery ticket, which wins a total of \$35,750. ESTIMATE and then CALCULATE the equal share of the winnings that each friend should get.

<u>Estimation</u>	<u>Calculation</u>
Round \$35,750 to \$36,000 (nearest thousand)	\$35,750 \div 4 = \$8937.5 (write it with 2 decimal places)
\$36,000 \div 4 = \$9,000	= \$8937.50

Notice that our ESTIMATION is very close (slightly higher) than the actual amount.



Practice Problems

ESTIMATE and then CALCULATE each “UNIT” price:

- 8 rolls of toilet paper cost \$3.96

<u>Estimation</u>	<u>Calculation</u>

- The total salary of 19 employees of a company is \$619,400.

<u>Estimation</u>	<u>Calculation</u>
Round employees – Round Salary total - <i>(nearest hundred thousand)</i>	

*** Check the answers to these questions before moving on to part B!**

Part B - Multiple Purchases (MULTIPLYING)

Examples

- a. If 1 hockey stick costs \$24.75, then how much will 21 of the same sticks cost?

<u>Estimation</u>	<u>Calculation</u>
Round both values: cost of one stick = \$25 # of sticks = 20 so, total cost = \$25 x 20 = \$500	$\$24.75 \times 21 = \519.75 (Slightly higher than the estimate!)



b. How close are the ESTIMATE and EXACT ANSWER?

When we use multiplication our estimates may not be as close to the exact answer as they were with addition!

2. The following items were purchased at a hardware store:
 12 metres of nylon rope (at a cost of \$0.78 per metre)
 25 boxes of light bulbs (at a cost of \$2.09 per box)
 3 screwdrivers (at a cost of \$4.89 each)

ESTIMATE, and then CALCULATE the total cost of the bill.
 (ONLY ROUND THE PRICES!)

<u>Estimation</u>	<u>Calculation</u>
rope - $12 \times \$1 = \12 lights - $25 \times \$2 = \50 screwdrivers - $3 \times \$5 = \underline{\$15}$ Total $\$77$	rope - $12 \times \$0.78 = \9.36 lights - $25 \times \$2.09 = \52.25 screwdrivers - $3 \times \$4.89 = \underline{\$14.67}$ Total $\$76.28$

Practice Problems

ESTIMATE and CALCULATE each amount below:

1. One jar of Peanut Butter costs \$5.19. How much will 19 jars cost?
 (Round \$ to nearest DOLLAR and round # of jars to nearest 10)

<u>Estimation</u>	<u>Calculation</u>

Student Handout: Unit 2 Lesson 5



2. In a back-to-school sale, my dad recently picked up the following items:
- 3 binders (\$2.29 each),
 - 2 rulers (\$0.90 each),
 - 1 calculator (\$14.79), and
 - 10 floppy disks (\$1.10 each).

Find the total cost.

<u>Estimation</u>	<u>Calculation</u>

*** Check all answers before moving on!**



Multiple Purchases Assignment

1. A box of 25 blank DVD's costs \$42.99. CALCULATE the cost of 1 DVD.

2. Your favourite teacher has a bag with 568 jellybeans in it. She wants to share equally with the entire class. If there are 19 students in the class, ESTIMATE then CALCULATE the number of jellybeans each student will get.

Round the number of jellybeans to the nearest HUNDRED.

Round the number of students to the nearest TEN.

<u>Estimation</u>	<u>Calculation</u>

Student Evaluation: Unit 2 Lesson 5



3. Use the sign posted above a fast-food counter to answer parts a and b below:

hamburger - \$3.95	<u>EXTRAS</u>
hot dog - \$2.80	
large fries - \$2.05	gravy - \$0.99
small fries - \$1.09	cheese - \$1.29
large drink - \$2.75	bacon - \$1.90
small drink - \$1.45	

a. ESTIMATE and CALCULATE the cost of 6 hamburgers.

<u>Estimation</u>	<u>Calculation</u>

b. ESTIMATE and CALCULATE the total cost of the following order:

2 burgers with bacon and cheese,
3 hot dogs,
4 large fries (2 with gravy), and
5 large drinks.

<u>Estimation</u>	<u>Calculation</u>