Dollars and Cents

Summary

How do you write numbers that aren't whole numbers? You probably said, "*Fractions!*" And that's correct. But there's another way … a special type of fraction that can be written using a symbol called a **decimal point**. A decimal point is like a period [**.**] between two digits. You can write numbers as large as you like using whole numbers. Using the decimal point, you can write numbers as small as you like. Here's an example of a number with a decimal point: **713.7482**
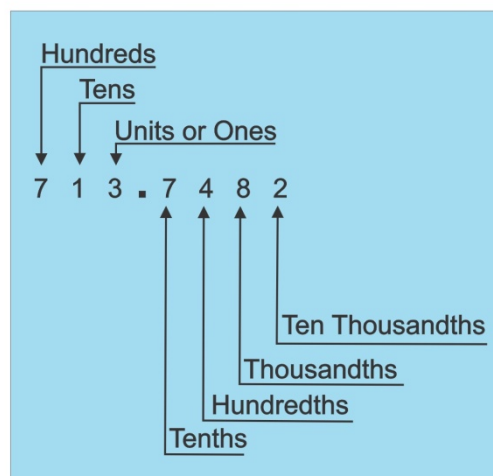
Digits can be placed to the left and right of a decimal point, to indicate numbers greater than one or less than one. Take a look at this place value chart.

The usual way to read this example number is:

> *"seven hundred thirteen point seven four eight two"*

This number can also be written as a whole number and a fraction:

$$713 \frac{7482}{10,000}$$

Hundreds
Tens
Units or Ones

7 1 3 **.** 7 4 8 2

Ten Thousandths
Thousandths
Hundredths
Tenths

However, you will rarely see a decimal number written like that! It's way too cumbersome and it's so much easier to use the decimal point.

The most common example of the use of decimal numbers is when we write amounts of money. We could say something like: "*That sandwich costs five and one-fourth dollars.*" But we wouldn't! We would say: "*That sandwich costs five dollars and twenty-five cents.*" And we would write: "*$5.25*". We know that we'll always have only two digits to the right of the decimal point.

Workplace Readiness Skill

Mathematics: Uses mathematical reasoning to accomplish tasks.

Workplace Readiness Definition

- using mathematical reasoning and processes to accomplish job-specific tasks (e.g., using graphs and charts to estimate expenditures for a construction job, using decimals and percentages in retail applications)
- making calculations related to personal finance (e.g., wage rates, paycheck deductions, taxes)

Context Questions

- Have you ever had to do any calculations with decimals?
- Can you think of some instances when you used decimals?
- Why is important to understand decimals as they relate to money?

Guidelines

1. Prerequisite Knowledge/Skills
   You should be able to:
   - Add, subtract, multiply, and divide using decimals
   - Add, subtract, multiply, and divide using fractions
2. Complete the *Dollars and Cents* exercise.

Evaluation

Check your work by referring to the *Dollars and Cents - KEY*.

Reflection after Completion

- Did you solve all or most of the problems correctly?
- Which ones were the most difficult for you?
- Were you able to apply the technique for solving word problems?
- What are the benefits of knowing how to work with decimals where money is concerned?

Resources:

If you need a review of decimals or more practice, go to:

http://www.mathsisfun.com/decimals-menu.html

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Solve these word problems dealing with money.	
Item #	**Item**
1.	How much change will you get from $5 when your purchase totaled $3.12?
2.	Jamal buys the newspaper every day for $1.50. If he subscribes, he pays only $7.25 per week for seven issues. How much will his weekly savings be if he subscribes?
3.	Glenda bought maple syrup for $1.92 a pint and sold the syrup for $0.96 a pint more. What was the price of a pint of syrup?
4.	Lydia had $74.81 in her checking account. She wrote checks for $46.19 and $22.45. She then made a $60.00 deposit. What is her new balance?
5.	At Bill's Burger Shack, a cheeseburger costs $1.89, medium fries cost $1.29, and a medium cola costs $1.19. The cheeseburger combination meal of a cheeseburger, medium fries, and medium cola costs $4.29. How much would Olga save by buying the cheeseburger combination meal instead of buying the three items separately?
6.	Jack took his little brother to a baseball game. Each ticket cost $12.75 and Jack paid with two $20 bills. How much change did Jack receive?

7.	At Jake's Auto Supply store, a case of 6 bottles of motor oil costs $34.75. For a limited time, a discount of $4.50 per case was given. What was the price per bottle at this special price?
8.	Mr. Taylor just celebrated his 70th birthday. He has accumulated $375,000 in savings. According to the *Investment Advice* graph, he should have $262,500 invested in bonds and $37,500 invested in stocks. How much should he have in cash?

For question 8, the image shows:

Investment Advice for Age 61 - 75

A pie chart with:
- Stocks: $\frac{1}{10}$
- Cash: $\frac{1}{5}$
- Bonds: $\frac{7}{10}$