Practical Mathematics

Decimal Fractions & Money

What We Know

573

What We Know

573

Ones digit: 3x1

What We Know

573

Tens digit: 7x10

What We Know

↓

573

Hundreds digit: 5x100

What We Know

As you move to the *left* the multiplier of the digit is 10 times the prior one

As you move to the *right,* the multiplier of the digit is one tenth of the prior one

Decimal Fractions

What happens as we move left of the ones digit?

We get a *decimal fraction*

23.7218

Decimal Fractions

↓

23.7218

Tens digit: 2x10

Decimal Fractions

23.7218
Ones digit: 3x1

Decimal Fractions

23.7218
Tenths digit: 7x1/10

Decimal Fractions

23.7218
Hundredths digit: 2x1/100

Decimal Fractions

23.7218
Thousandths digit: 1x1/1000

Decimal Fractions

$$7548 + 304 + 1866 + 4$$

7548	7548	7548
304	304	304
1866	1866	1866
4	4	4

Decimal Fractions

145.322 + 0.746 + 1.3 + 17.0604

145.322	145.322	145.322	145.322
0.746	0.746	0.746	0.746
1.3	1.3	1.3	1.3
17.0604	17.0604	17.0604	17.0604

Decimal Fractions

$$2.4$$
$$\underline{\times 3.07}$$
$$168$$
$$000$$
$$\underline{7200}$$
$$\underline{7368}$$

Decimal Fractions

2.4

x3.07

168

000

7200

7368

Decimal Fractions

$$2.4$$
$$\underline{\times 3.07}$$
$$168$$
$$000$$
$$\underline{7200}$$
$$\underline{7.368}$$

Division of Decimals
22.46732 / 3.191

$$3.191\overline{)22.46732}$$

Division of Decimals

$$3.191 \overline{)22.46732}$$

Division of Decimals

$$3191 \overline{\smash{)}22467.32}$$

Division of Decimals

$$
\begin{array}{r}
7 \\
3191\,\overline{)\,22467.32} \\
\underline{22337} \\
130
\end{array}
$$

Division of Decimals

$$
\begin{array}{r}
7.04 \\
3191\overline{\smash{)}22467.32} \\
\underline{22337} \\
130\;32 \\
\underline{127\;64} \\
2\;68
\end{array}
$$

Division of Decimals

$$7.04\ 08$$

$$3191\ \overline{\big)\ 22467.32}$$

$$\underline{22337}$$

$$130\ 32$$

$$\underline{127\ 64}$$

$$2\ 68\ 00$$

$$\underline{2\ 5528}$$

$$1172$$

Rounding

Decide how many decimal places you need, then look at the digit just to the right of the last place you need.

If it is less than 5, drop the rest of the decimal places.

If it is 5 or more, add 1 to the last digit you need, then drop the rest of the decimal places.

Fractions to Decimals
5/16

$$\begin{array}{r} 0. \\ 16\overline{\smash{\big)}\,5.0000} \end{array}$$

Fractions to Decimals
5/16

$$
\begin{array}{r}
0.3 \\
16\,\overline{\smash{)}\,5.0000} \\
\underline{48} \\
20
\end{array}
$$

Fractions to Decimals
5/16

$$
\begin{array}{r}
0.31 \\
16\overline{)5.0000} \\
\underline{48} \\
20 \\
\underline{16} \\
40
\end{array}
$$

Fractions to Decimals
5/16

$$
\begin{array}{r}
0.3125 \\
16\overline{)5.0000} \\
\underline{48} \\
20 \\
\underline{16} \\
40 \\
\underline{32} \\
80 \\
\underline{80} \\
0
\end{array}
$$

Fractions to Decimals
1/7

```
      0.142857
  7 | 1.000000
      7                    60
      30                   56
      28                   40
      20                   35
      14                   50
      60                   49
                            1
```

Fractions to Decimals

- 1/7 $= 0.\overline{142857}$
- 1/3 $= 0.\overline{3}$
- 1/9 $= 0.\overline{1}$
- 1/11 $= 0.\overline{09}$

Decimals to Fractions
Finite Length Decimals

0.3125 → 3125/10000 → 5/16

0.25 → 25/100 → 1/4

0.025 → 25/1000 → 1/40

Decimals to Fractions
Infinite Repeat Decimals

$0.\overline{3}$ → 3/9 → 1/3

$0.\overline{142857}$ → 142857/999999 → 1/7

$0.08\overline{3}$ → $8.\overline{3}$/100 → (8 1/3)/100
→ 25/300 → 1/12

Money
What It Is, and Its History

- Money is like time: We all know what it is *until we have to define it!*

- Money is anything that can serve as:
  - ➢ A store of value
  - ➢ A unit of account
  - ➢ A medium of exchange

Money
What It Is, and Its History

Ideally, what is used for money should be:

•High in replacement cost

•Durable/non-perishable

•Convenient to exchange

Money
What It Is, and Its History

- Amber
- Beads
- Cowries
- Drums
- Eggs
- Feathers
- Gongs

- Hoes
- Ivory
- Jade
- Kettles
- Leather
- Mats
- Nails

- Oxen
- Pigs
- Quartz
- Rice
- Salt
- Umiaks
- Vodka

- Wampum
- Yarns
- Zappozats (decorated axes)
- And many more

Money
Functions of Money

Specific (Usually microeconomic):
- Concrete Functions
  - Medium of Exchange
  - Means of Payment
  - Storage of Value
- Abstract Functions
  - Unit of Account
  - Common Measure of Value
  - Standard for Deferred Payments

General Functions (Generally macro-economic and abstract)
- Liquid Asset
- Framework of the Market Allocative System (i.e. prices)
- Causative Factor in the Economy
- Controller of the Economy

Biblical Personal Finance

- Realize it's not yours in the first place

  God owns it all, including you. It is all His, and you are His steward

- Recognize responsibility

  As stewards of God's resources, we need to use them as He would, and use them responsibly

- Remember God first

  What He gives us is intended to care for us, for our families, but we need to remember Him and His Kingdom first of all

- Reign in spending

  This not only involves cutting back on frivolous spending, but also avoiding a lavish lifestyle. I am here to serve God, not keep up with my neighbors

- Ready your future

  Prepare ahead; have a cushion for emergencies, and save for retirement

- Respect others

  Prosperity is given to me so that I can bless others by recognizing their needs and helping to meet them