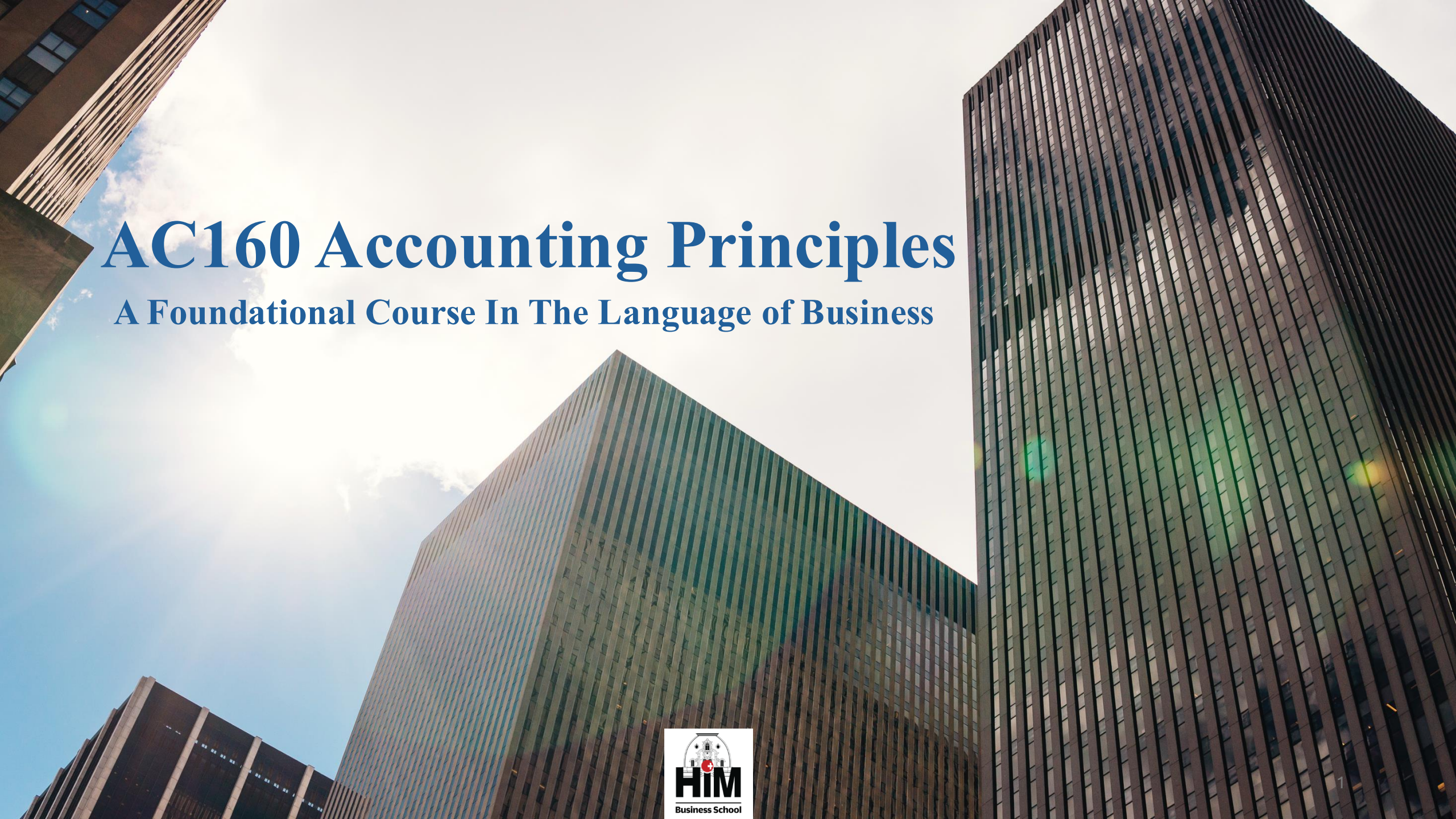

AC160 Accounting Principles

A Foundational Course In The Language of Business

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Week 1/ lecture 1.1

1. Introduction to the course

2. Warm up with basic math calculations

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Meet your lecturer

Lan Anh Ho, (call me Ms. Ho).

- Master of Professional Accounting, James Cook university (Australia)
- Completed supplementary Finance courses, Neuchatel University (Switzerland)
- In class: Swiss Certified Specialist for Finance and Accounting (Switzerland)
- 5+ years' accounting experience across Vietnam, Singapore & Switzerland
- Originally from Vietnam
- Passion: Helping others master the language of business – Accounting

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How to reach me?

- Office: Hotel Europe
- Office Hours: Monday, Tuesday: 8h-17h
- Email: *tho@him.ch*

Course Objectives

By the end of this course, you will be able to:

- Understand the role of accounting in business.
- Use foundational math in accounting contexts.
- Apply fundamental accounting principles.
- Record business transactions accurately using the double-entry system.
- Create and interpret financial statements.
- Master key accounting terminology.
- Prepare for further study or career use.

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Course Resources

- Lecture notes and case studies available on Moodle – check regularly for updates
- Online textbook *https://www.principlesofaccounting.com*
- *https://www.accountingcoach.com/accounting-basics/explanation*
- Tools Required: Calculator , Excel or Google Sheets
- Accounting tutorials: YouTube, Google Scholar, Accounting journals
- Financial reports of companies: Bloomberg, Yahoo Finance

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Evaluation Methods

Assessments	Total 100 %
Quiz (online)	10 %
Midterm exam (online)	40 %
Group presentation (in person)	10 %
Final exam (online)	40 %

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Classroom Guidelines

- Students are expected to bring a laptop or tablet to class, and a calculator!
- It is disrespectful to both me and your classmates to use technology for non-class purposes. I reserve the right to ask students to stop using their phones, reduce assignment points, or even ask students to leave the class.
- Exams will be conducted online through Moodle. We will have a mock exam to help you familiarize yourself with the exam format.
- It is the student's responsibility to regularly check their Moodle page for course materials, updates, and announcements.

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Classroom Guidelines

- At the end of the lesson, ensure your chair is pushed back and your desk is cleaned.
- Students arriving late (after attendance has been taken) will be marked absent for the first hour.
- Be respectful, kind, and polite to others.
- **Feel free to ask questions**

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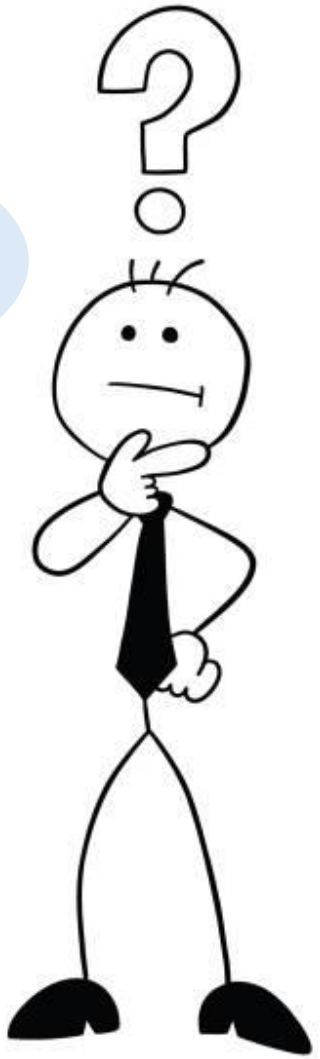
Do you need to be good at math for accounting?



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Do you need to be good at math for accounting?

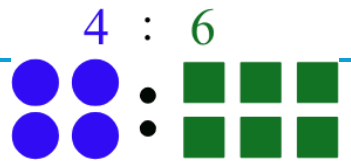
Short answer: not really

You don’t need to be a maths genius to work in accounting.

Basic Arithmetic

Percentages – for things like VAT, discounts and interest

Ratios – used to analyse financial health



Simple formulas – for depreciation, margins, taxes.

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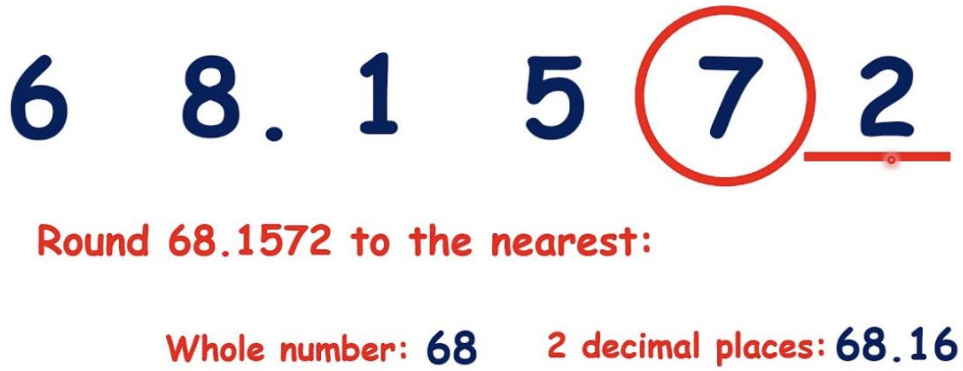
Warm up

Basic Math Calculations

Rule of rounding

- ✓ If the digit to round is below a 5, round down.
- ✓ If the digit is 5 or above, round up.



Rounding

- ✓ In business, calculations are usually rounded to two decimal places.

1.344 rounds to 1.34

2.546 rounds to 2.55

3.208 rounds to ? 3.21

4.722 rounds to ? 4.72

5.5555 rounds to ? 5.56

6.9966 rounds to? 7.00

Round the following numbers to two decimal places:

0.5678 0.57

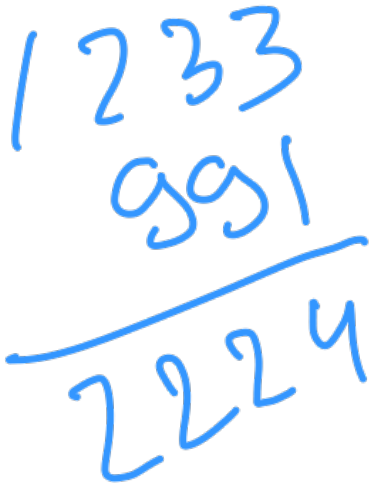
3.9953 4.00

6.9953 7.00

107.3564276 107.36

Basic Arithmetic

Mark deposited $450, $312, $125, and $432 in his bank account this month. He also made deductions of $205 and $123. If his balance at the beginning of the month was $1233, what was his balance at the end of the month?



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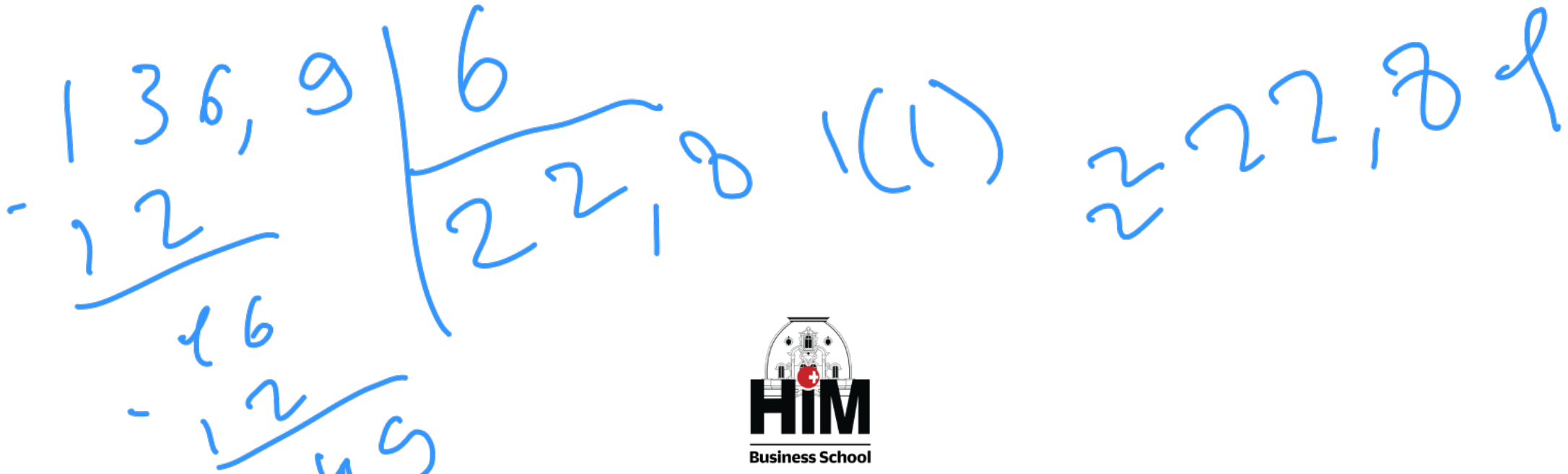
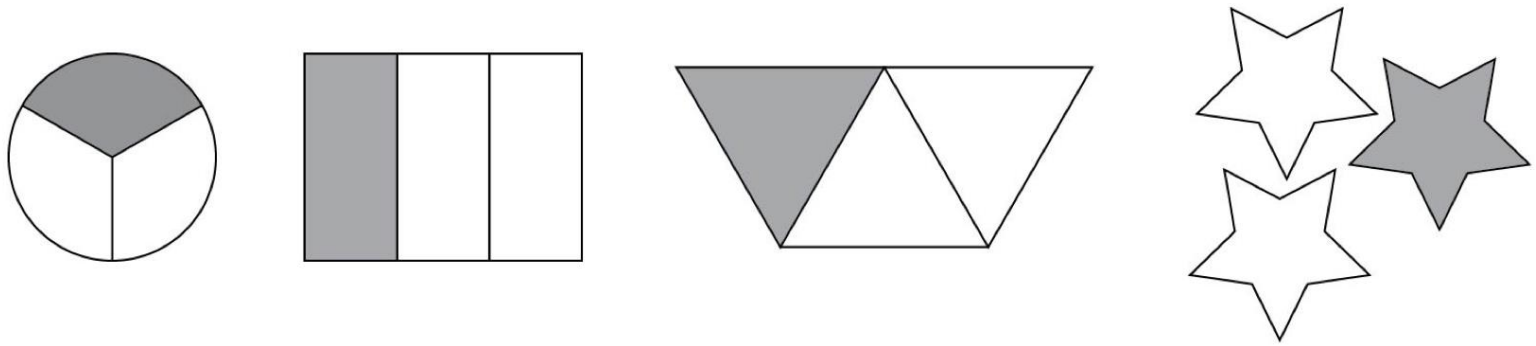
Basic Arithmetic

Wendy just received her monthly water usage data from her local water department. For the past 6 months, her water used (in thousands of gallons) was 19.9, 25.6, 28.8, 22.5, 20.3, and 19.2. What was her average usage during this time?



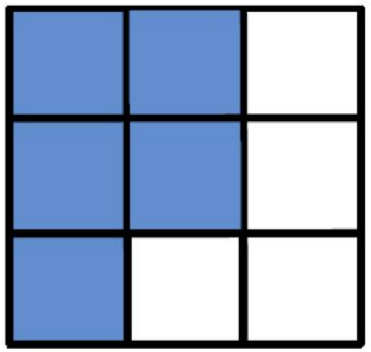
Fractions

Suppose I buy a candy bar to split with two of my friends. What number could we use to discuss how much of the bar each of us would get? Well, if we have 1 bar and it is split into 3 equal pieces, then we would say that each person gets $\frac{1}{3}$ of the bar. The number $\frac{1}{3}$ is called a *fraction* because we use it to represent part (one part) of a whole (3 pieces).



Fractions

Identify the fraction represented by the shaded part of each figure.



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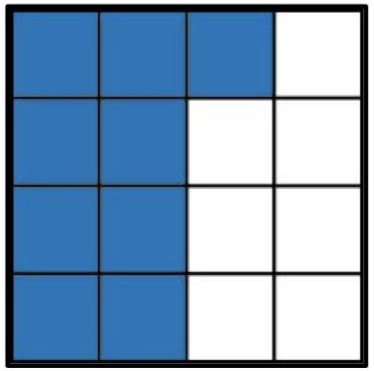

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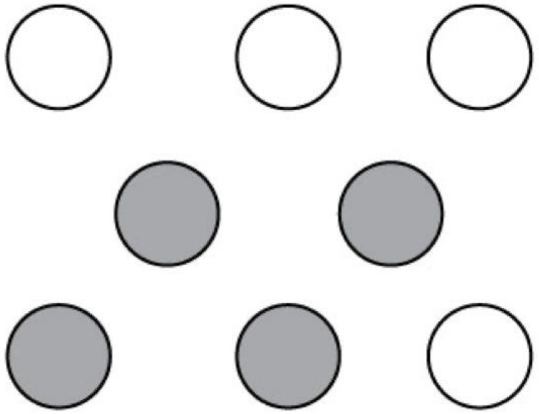


1/2

Fractions

Perform the following operations between the fractions below, giving your answers in fraction form:

$$\frac{5}{8}+\frac{3}{4}-\frac{4}{5}=$$

$\frac{23}{40}$

$$\frac{1}{4}\cdot\frac{3}{2}=$$

$\frac{3}{8} = 0,375$

$$2\frac{1}{2}\cdot 1\frac{3}{4}=$$

$\frac{5}{2} \cdot \frac{7}{4} = \frac{35}{8} = 4,375$

$$\left(3-\frac{1}{4}\right)-\left(\frac{1}{3}+\frac{1}{15}\right)=$$

$2\frac{21}{60} = 2\frac{7}{20}$

Fractions

Convert the following fractions to decimal form:

$\frac{1}{2} = ?$ 0,5

$\frac{21}{35} = ?$ $\frac{3}{5} = 0,6$

$\frac{8}{24} = ?$ $0,3\overline{3}$

$4\frac{1}{3} = ?$ $4,3\overline{3}$

$\frac{4}{3} = ?$ $1,3\overline{3}$

$\frac{48}{54} = ?$ $\frac{8}{9} = 0,\overline{8}$

$\frac{125}{1000} = ?$ $\frac{1}{8} = 0,125$

$8\frac{4}{9} = ?$ $8,4\overline{4}$

Fractions

Which is larger, $\frac{4}{5}$ or $\frac{6}{7}$?

Percents

- Percentages also indicate proportions. They can be expressed either as fractions or as decimals:

45% = 45/100 = 0.45

7% = 7/100 = 0.07

What is 12% of 20? 2,4

What is 30.45% of 450? 137,025

Percents

At a restaurant, the bill comes to $51.23. If you decide to leave a 14% tip, how much is the tip and what is the final bill?

$5 8,40

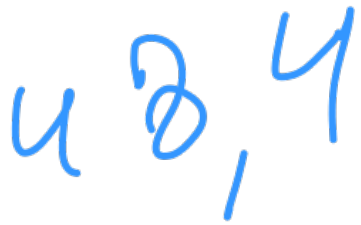
Percents

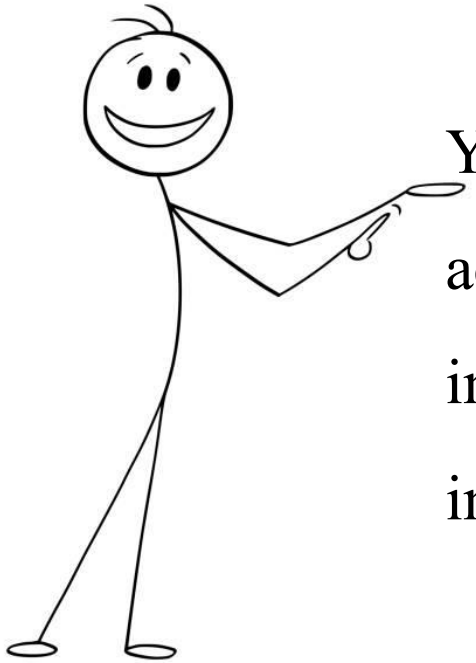
Joyce paid $33.00 for an item at the store that was marked as 45 percent off the original price. What was the original price?

Percents

A company sells its product for $65 per unit.

How much will it sell for if the customer negotiates a 20% discount?





You deposit CHF 100 in a UBS bank account with an annual simple interest rate of 3%. How much interest will you earn after 1 year?

CHF 3

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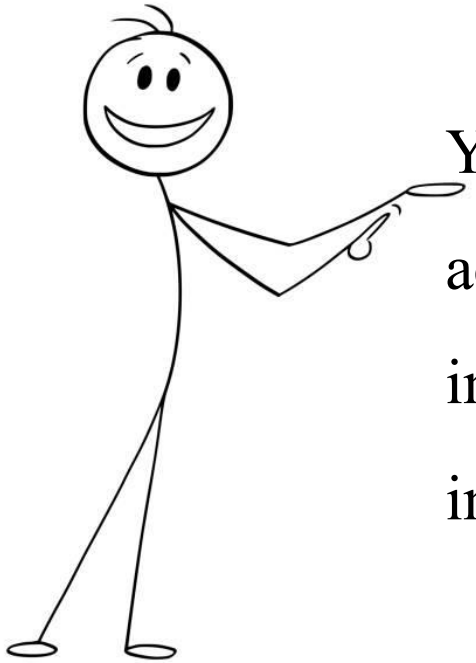

You deposit CHF 100 in a UBS bank account with an annual simple interest rate of 3%. How much interest will you earn after 1 year? = 100 x 3% x 1 = CHF 3

SIMPLE INTEREST = PRINCIPLE x INTEREST RATE x TIME

Remember the following:

Principle is the amount borrowed

Interest Rate is the annual rate

Time is in years

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Calculate the simple interest and the final balance on $14,000 borrowed at 3% interest over 10 years.

$14000 \times 3 = 4200 - SI$

If you invest $5000 at simple interest of 8% per year for 6 years, how much money will you earn from interest? How much money will you have at the end of 6 years?

$50 \times 8 \times 6 = 2400$

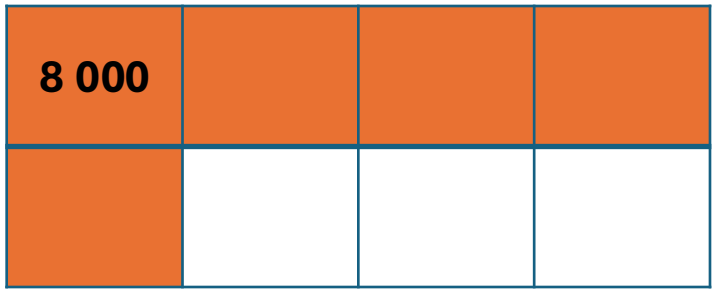
$+ 5000$

7400

Ratios

An inheritance of £64,000 is to be divided between Mrs. A and Mr. B in the ratio 5:3.

What is each person's share?



64000 / 8 = 8000

So, Mrs A receives 5 parts, which is 5 × £8, 000 = £40, 000
and Mr B receives 3 parts, which is 3 × £8, 000 = £24, 000.

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Ratios

- A supervisor divides her time between Departments A and B in a ratio of 3:1. This means she spends:

¾ of her time in Department A

1/4 of her time in Department B

- If her annual salary is $24,000, calculate how much of her salary should be charged to each department

Department A: 0,75 x $24,000 = 18000

Department B: 0,25 x $24,000 = 6000

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Ratios

- A supervisor divides her time between Departments A and B in a ratio of 3:1. This means she spends:

¾ of her time in Department A

1/4 of her time in Department B

- If her annual salary is $24,000 then this could be divided between the two departments as follows:

Department A: 3/4 x $24,000 = $18,000

Department B: 1/4 x $24,000 = $6,000

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The cross-product method.

If Alex walks 6 miles in 5 hours, how far would he walk in 10 hours?

$$\frac{x \text{ miles}}{10 \text{ hours}} = \frac{6 \text{ miles}}{5 \text{ hours}}$$

$$\frac{x}{10} = \frac{6}{5}$$

Multiply across the = sign bottom to top

$$x = \frac{6 \cdot 10}{5}$$

$$x = \frac{60}{5} = 12 .$$

Use the cross-product method to solve:

$$\frac{6}{12} = \frac{18}{x}$$

$$\frac{2.3}{x} = \frac{4.1}{5.6}$$

$$\frac{t}{2} = \frac{3}{5}$$

The cross-product method.

Mary earned $112.50 last week working 12 hours at her part-time job. If she works 15 hours this week and is paid the same rate, how much will she earn?

140, 625

Calculate VAT

VAT (Value Added Tax) is a consumption tax added to the price of goods and services at each stage of production or sale.

I want to buy an iPhone at the price of CHF 1000. With 8.1% VAT, the final price I have to pay is : CHF _

Calculate VAT

A MacBook costs CHF 2500 excluding VAT. VAT rate is 8.1%. How much do you pay in total?

2702,5

You paid CHF 1200 for a TV including 8.1% VAT. What was the price before VAT?

1110,08

A jacket costs CHF 80 including 8.1% VAT. What was the price before VAT?

74,01

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Lecture Summary

Today, we have covered the following:

- Course Introduction
- Math Basics, including:
  - Rules of Rounding
  - Fractions
  - Percents
  - Simple Interest
  - Ratios
  - The Cross-Product Method
  - Calculating VAT

In our next session, we will discuss:

- What is accounting?
- Who needs accounting information?
- Career opportunities in accounting
- Generally accepted accounting principles (GAAP)

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