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Wednesday, 26 January 2022 11:45 am

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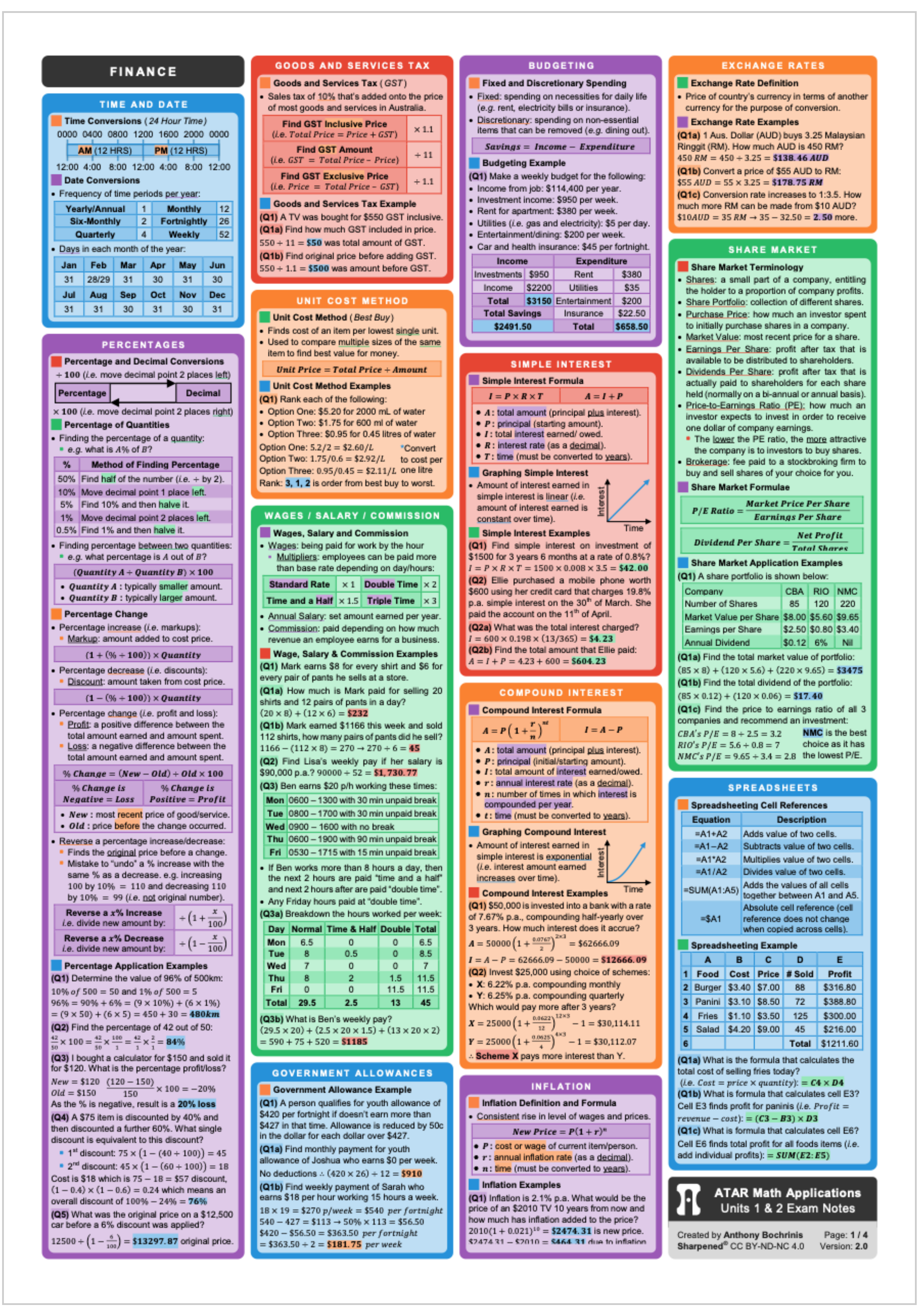
AMA12v2.0



FINANCE

TIME AND DATE

Time Conversions (*24 Hour Time*)

0000 0400 0800 1200 1600 2000 0000

AM (12 HRS) | PM (12 HRS)

12:00 4:00 8:00 12:00 4:00 8:00 12:00

Date Conversions

- Frequency of time periods per year:

Yearly/Annual	1	Monthly	12
Six-Monthly	2	Fortnightly	26
Quarterly	4	Weekly	52

- Days in each month of the year:

Jan	Feb	Mar	Apr	May	Jun
31	28/29	31	30	31	30
Jul	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
31	31	30	31	30	31

PERCENTAGES

Percentage and Decimal Conversions

$\div 100$ (*i.e.* move decimal point 2 places left)

Percentage ⟷ Decimal

$\times 100$ (*i.e.* move decimal point 2 places right)

Percentage of Quantities

- Finding the percentage of a quantity:
  - *e.g.* what is A% of B?

%	Method of Finding Percentage
50%	Find half of the number (*i.e.* $\div$ by 2).
10%	Move decimal point 1 place left.
5%	Find 10% and then halve it.
1%	Move decimal point 2 places left.
0.5%	Find 1% and then halve it.

- Finding percentage between two quantities:
  - *e.g.* what percentage is A out of B?

$(Quantity\ A \div Quantity\ B) \times 100$

- $Quantity\ A$: typically smaller amount.
- $Quantity\ B$: typically larger amount.

Percentage Change

- Percentage increase (*i.e.* markups):
  - Markup: amount added to cost price.

$(1 + (\% \div 100)) \times Quantity$

- Percentage decrease (*i.e.* discounts):
  - Discount: amount taken from cost price.

$(1 - (\% \div 100)) \times Quantity$

- Percentage change (*i.e.* profit and loss):
  - Profit: a positive difference between the total amount earned and amount spent.
  - Loss: a negative difference between the total amount earned and amount spent.

$\%\ Change = (New - Old) \div Old \times 100$

% Change is Negative = Loss	% Change is Positive = Profit

- New : most recent price of good/service.
- Old : price before the change occurred.

GOODS AND SERVICES TAX

Goods and Services Tax (*GST*)

- Sales tax of 10% that's added onto the price of most goods and services in Australia.

Find GST Inclusive Price (*i.e.* $Total\ Price = Price + GST$)	$\times 1.1$
Find GST Amount (*i.e.* $GST = Total\ Price - Price$)	$\div 11$
Find GST Exclusive Price (*i.e.* $Price = Total\ Price - GST$)	$\div 1.1$

Goods and Services Tax Example

(Q1) A TV was bought for $550 GST inclusive.

(Q1a) Find how much GST included in price.

$550 \div 11 =$ **$50** was total amount of GST.

(Q1b) Find original price before adding GST.

$550 \div 1.1 =$ **$500** was amount before GST.

UNIT COST METHOD

Unit Cost Method (*Best Buy*)

- Finds cost of an item per lowest single unit.
- Used to compare multiple sizes of the same item to find best value for money.

$Unit\ Price = Total\ Price \div Amount$

Unit Cost Method Examples

(Q1) Rank each of the following:

- Option One: $5.20 for 2000 mL of water
- Option Two: $1.75 for 600 ml of water
- Option Three: $0.95 for 0.45 litres of water

Option One: $5.2/2 = \$2.60/L$
Option Two: $1.75/0.6 = \$2.92/L$
Option Three: $0.95/0.45 = \$2.11/L$

*Convert to cost per one litre

Rank: **3, 1, 2** is order from best buy to worst.

WAGES / SALARY / COMMISSION

Wages, Salary and Commission

- Wages: being paid for work by the hour
  - Multipliers: employees can be paid more than base rate depending on day/hours:

Standard Rate	$\times 1$	Double Time	$\times 2$
Time and a Half	$\times 1.5$	Triple Time	$\times 3$

- Annual Salary: set amount earned per year.
- Commission: paid depending on how much revenue an employee earns for a business.

Wage, Salary & Commission Examples

(Q1) Mark earns $8 for every shirt and $6 for every pair of pants he sells at a store.

(Q1a) How much is Mark paid for selling 20 shirts and 12 pairs of pants in a day?

$(20 \times 8) + (12 \times 6) =$ **$232**

(Q1b) Mark earned $1166 this week and sold 112 shirts, how many pairs of pants did he sell?

$1166 - (112 \times 8) = 270 \rightarrow 270 \div 6 =$ **45**

(Q2) Find Lisa's weekly pay if her salary is $90,000 p.a.? $90000 \div 52 =$ **$1,730.77**

(Q3) Ben earns $20 p/h working these times:

Mon	0600 – 1300 with 30 min unpaid break
Tue	0800 – 1700 with 30 min unpaid break
Wed	0900 – 1600 with no break

BUDGETING

Fixed and Discretionary Spending

- Fixed: spending on necessities for daily life (*e.g.* rent, electricity bills or insurance).
- Discretionary: spending on non-essential items that can be removed (*e.g.* dining out).

$Savings = Income - Expenditure$

Budgeting Example

(Q1) Make a weekly budget for the following:

- Income from job: $114,400 per year.
- Investment income: $950 per week.
- Rent for apartment: $380 per week.
- Utilities (*i.e.* gas and electricity): $5 per day.
- Entertainment/dining: $200 per week.
- Car and health insurance: $45 per fortnight.

Income		Expenditure	
Investments	$950	Rent	$380
Income	$2200	Utilities	$35
Total	$3150	Entertainment	$200
Total Savings		Insurance	$22.50
$2491.50		Total	$658.50

SIMPLE INTEREST

Simple Interest Formula

$I = P \times R \times T$	$A = I + P$

- A : total amount (principal plus interest).
- P : principal (starting amount).
- I : total interest earned/ owed.
- R : interest rate (as a decimal).
- T : time (must be converted to years).

Graphing Simple Interest

- Amount of interest earned in simple interest is linear (*i.e.* amount of interest earned is constant over time).

Simple Interest Examples

(Q1) Find simple interest on investment of $1500 for 3 years 6 months at a rate of 0.8%?

$I = P \times R \times T = 1500 \times 0.008 \times 3.5 =$ **$42.00**

(Q2) Ellie purchased a mobile phone worth $600 using her credit card that charges 19.8% p.a. simple interest on the 30th of March. She paid the account on the 11th of April.

(Q2a) What was the total interest charged?

$I = 600 \times 0.198 \times (13/365) =$ **$4.23**

(Q2b) Find the total amount that Ellie paid:

$A = I + P = 4.23 + 600 =$ **$604.23**

COMPOUND INTEREST

Compound Interest Formula

$A = P\left(1 + \frac{r}{n}\right)^{nt}$	$I = A - P$

- A : total amount (principal plus interest).
- P : principal (initial/starting amount).
- I : total amount of interest earned/owed.
- r : annual interest rate (as a decimal).
- n : number of times in which interest is compounded per year.
- t : time (must be converted to years).

Graphing Compound Interest

EXCHANGE RATES

Exchange Rate Definition

- Price of country's currency in terms of another currency for the purpose of conversion.

Exchange Rate Examples

(Q1a) 1 Aus. Dollar (AUD) buys 3.25 Malaysian Ringgit (RM). How much AUD is 450 RM?

$450\ RM = 450 \div 3.25 =$ **$138.46 AUD**

(Q1b) Convert a price of $55 AUD to RM:

$\$55\ AUD = 55 \times 3.25 =$ **$178.75 RM**

(Q1c) Conversion rate increases to 1:3.5. How much more RM can be made from $10 AUD?

$\$10 AUD = 35\ RM \rightarrow 35 - 32.50 =$ **2.50** more.

SHARE MARKET

Share Market Terminology

- Shares: a small part of a company, entitling the holder to a proportion of company profits.
- Share Portfolio: collection of different shares.
- Purchase Price: how much an investor spent to initially purchase shares in a company.
- Market Value: most recent price for a share.
- Earnings Per Share: profit after tax that is available to be distributed to shareholders.
- Dividends Per Share: profit after tax that is actually paid to shareholders for each share held (normally on a bi-annual or annual basis).
- Price-to-Earnings Ratio (PE): how much an investor expects to invest in order to receive one dollar of company earnings.
  - The lower the PE ratio, the more attractive the company is to investors to buy shares.
- Brokerage: fee paid to a stockbroking firm to buy and sell shares of your choice for you.

Share Market Formulae

$P/E\ Ratio = \frac{Market\ Price\ Per\ Share}{Earnings\ Per\ Share}$

$Dividend\ Per\ Share = \frac{Net\ Profit}{Total\ Shares}$

Share Market Application Examples

(Q1) A share portfolio is shown below:

Company	CBA	RIO	NMC
Number of Shares	85	120	220
Market Value per Share	$8.00	$5.60	$9.65
Earnings per Share	$2.50	$0.80	$3.40
Annual Dividend	$0.12	6%	Nil

(Q1a) Find the total market value of portfolio:

$(85 \times 8) + (120 \times 5.6) + (220 \times 9.65) =$ **$3475**

(Q1b) Find the total dividend of the portfolio:

$(85 \times 0.12) + (120 \times 0.06) =$ **$17.40**

(Q1c) Find the price to earnings ratio of all 3 companies and recommend an investment:

$CBA's\ P/E = 8 \div 2.5 = 3.2$
$RIO's\ P/E = 5.6 \div 0.8 = 7$
$NMC's\ P/E = 9.65 \div 3.4 = 2.8$

NMC is the best choice as it has the lowest P/E.

SPREADSHEETS

Spreadsheeting Cell References

Equation	Description
=A1+A2	Adds value of two cells.