

# **STEP BY STEP TO FOOD COST CALCULATION**

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*"Is not the customer's job to  
know what they want"*

-STEVE JOBS

*Step by Step to*  
**FOOD COST  
CALCULATION**

by  
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Dengan nama Allah Yang Maha Pemurah  
lagi Maha Penyayang serta selawat dan  
salam kepada baginda Rasulullah SAW.  
Alhamdulillah.. syukur ke hadrat Illahi  
atas limpah rahmat dan pertolonganNya  
dapat juga kami menyiapkan buku Step  
by Step to Food and Beverage Cost  
calculation

Setinggi-tinggi penghargaan diberikan  
kepada Politeknik Tuanku Syed  
Sirajuddin khususnya Jabatan  
Pelancongan dan Hospitaliti serta rakan-  
rakan pensyarah di atas sokongan dan  
peluang untuk menghasilkan buku ini.

*Mahirah Rafie  
Saiful Mohamed Shuib*



# Costs

## ABSTRACT



Dengan nama Allah Yang Maha Pemurah lagi Maha Penyayang serta selawat dan salam kepada baginda Rasulullah SAW. Alhamdulillah.. syukur ke hadrat Illahi atas limpah rahmat dan pertolonganNya dapat juga kami menyiapkan buku Step by Step to Food and Beverage Cost calculation

Setinggi-tinggi penghargaan diberikan kepada Politeknik Tuanku Syed Sirajuddin khususnya Jabatan Pelancongan dan Hospitaliti serta rakan-rakan pensyarah di atas sokongan dan peluang untuk menghasilkan buku ini.

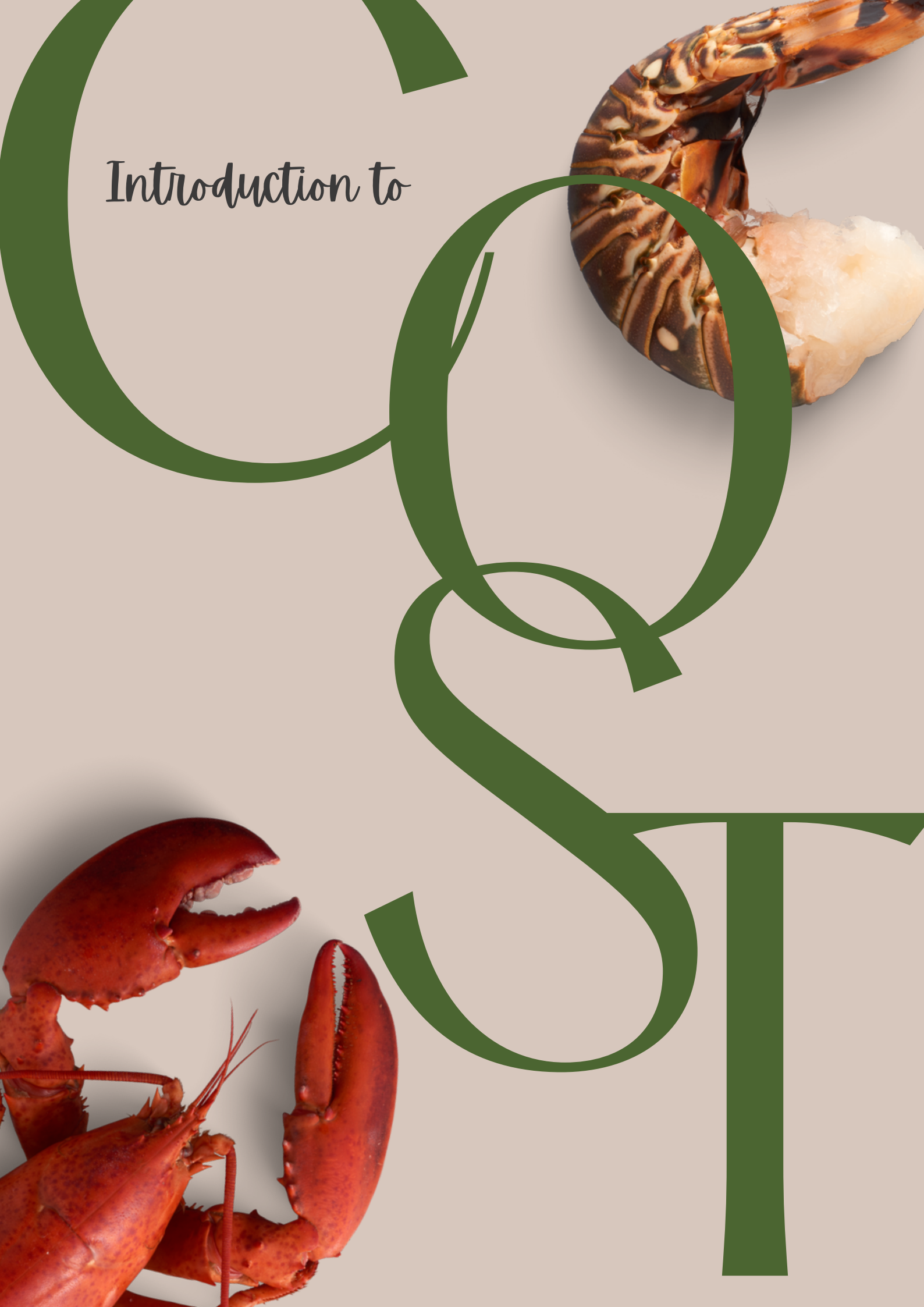
*Mahirah Rafie  
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*Introduction to*



# INTRODUCTION TO COST

This chapter helps us to understand about cost and its importance to the food industry.

## Learning outcomes

- 1 Understanding the definition of cost.
- 2 Understanding types of cost.
- 3 Understanding cost in food and beverage establishments.
- 4 Understanding the importance of cost in food and beverage establishments.






## Definition of cost

Cost is defined as the expense to a food service establishment for the goods or services when the goods are consumed or the services are rendered.

Food and beverage are considered as consumed meanwhile payment of labor considered as rendered.





Cost maybe expressed in  
variety of unit such as

### **WEIGHT**


For something that we can weight.  
Examples; meat, vegetables, fish

### **VOLUME**

Only for water.  
Examples; juices, plain water, oil

### **COUNT**

Materials that we can count visually.  
Examples; canned sardines, apples



Cost can be view in  
several different types  
such as

- 1 Fixed Cost
- 2 Variable Cost
- 3 Controllable Cost
- 4 Non-controllable Cost
- 5 Unit Cost
- 6 Total Cost
- 7 Prime Cost
- 8 Planned Cost
- 9 Historical Cost



# FIXED COST

The cost that normally unaffected by changes in sales. If the fixed cost increase or decrease, there are no significant changes to sales.

Examples of fixed cost

- 🍅 Insurance premium
- 🍅 Taxes
- 🍅 Rental
- 🍅 Advertising expenses
- 🍅 Manager's salary



# VARIABLE COST



Variable cost related to business volume. As business volume increase, the variable cost will be increase; as the business volume decrease, the variable cost will be decrease.

There are **TWO** types of variable cost

- 🍅 Direct variable cost
- 🍅 Semi variable cost



# DIRECT VARIABLE COST



The cost that directly linked to business volume. Every increase or decrease in volume brings a corresponding increase or decrease in cost.

Examples of direct variable cost



Foods



Beverages



# SEMI VARIABLE COST

The semi variable cost means that a portion of it should change with short term changes in business volume and another is not. Payroll cost has both fixed cost and variable cost elements which is salaries are fixed and wages are variable.

Examples of semi variable cost

- 🍅 Payroll cost
- 🍅 Telephone cost

**SALARY**

**PAYROLL**

## WEEKLY TIME SHEET

	Mon 6/10	Tue 6/11	Wed 6/12	Thu 6/13	Fri 6/14	Sat 6/15
TIME IN	2.00	2.00	2.00	2.00	2.00	2.00
TIME OUT	12.00	16.00	16.00	16.00	12.00	7.00
R. HOURS	7	7	7	7	7	7
O/T HOURS	2	-	-	-	-	-
TOTAL	10	7	7	7	7	7



# CONTROLLABLE COST

Controllable cost is a cost that can be controlled by a manager. This cost can be change in short term. Variable cost is normally controllable cost but certain fixed cost are controllable.

Examples of controllable cost

- 🍅 Food and beverages
- 🍅 Advertising
- 🍅 Office supplies
- 🍅 Repairs and maintance
- 🍅 Telephone cost



# NON-CONTROLLABLE COST



The cost that cannot be controlled by the manager. This cost normally cannot be change in the short term period and usually fixed cost

Examples of non-controllable cost

- 🍅 Insurance premium
- 🍅 Taxes
- 🍅 Rental
- 🍅 Interest on mortgages
- 🍅 License fees





## UNIT COST

The cost of one of many like a unit such as one portion of a particular menu item or one hour of a labor cost. The cost may be food or beverage portions or one unit of work.





## TOTAL COST

The sum of all unit cost for a given period. The total cost is consideration of cost, in terms of totals such as the total of labor cost for one period of duty or a total cost for a meals.





## PRIME COST

Prime cost referring as the cost of materials and labor or cost of food and beverage and payroll on a given operating period. The level and control of prime cost play a large part in determining whether an establishment will meet its financial goals.



# HISTORICAL COST


Historical cost is a past cost that has been documented in business records. This cost can be found in business records, books of account, financial statement, invoices etc. Historical records of cost particular value for planning; which is for determining in the present what is likely to happen in the future



# PLANNED COST

An anticipated cost; projected by management which reflects plan for the future. Effective planning based on historical cost will develop planned cost. The planned cost also often called as budgeting. The budgeting will be done weekly, monthly, yearly or maybe 2 until 5 years.





Cost in food and  
beverage establishment  
can be view in  
different ways such as

- 1 Food and Beverage Cost
- 2 Labor Cost
- 3 Overhead Cost



# FOOD AND BEVERAGE COST

This cost only refer to materials only. It is include the expense of meat, dairy, fruits, vegetables and other categories of food item produced by the foodservice operation. Food cost is the cost associated with actually producing the menu item. In most cases, food cost will make up the largest or second largest expense category you must learn to manage.



# LABOR COST

The payroll cost which include salaries, wages and employee benefits. This cost include the cost of all employees necessary to run the business, including taxes and benefits. In food and beverage operation, labor costs are second only to food costs in total expense spent.



## A top-down view of a halved avocado. The large half in the foreground shows a thick, green outer layer of flesh surrounding a large, smooth, dark brown pit. The flesh has a slightly textured appearance. A smaller, partially cut half of the avocado is visible in the upper right corner, showing the same green flesh and a lighter, yellowish-green area near the pit. The background is a plain, light-colored surface.

Overhead cost also could be known as other expenses or other operating expenses. Which means that the expenses that run the business.

- Overhead costs include all-expense than prime cost (food, beverage and labor).

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# ACTIVITY

Understand  
your  
BUSINESS  
needs

DEFINE THE TERMS BELOW WITH EXAMPLES:

FIXED COST

EXAMPLE:

VARIABLE COST

EXAMPLES

CONTROLLABLE COST

EXAMPLES



# ACTIVITY

Understand  
your  
BUSINESS  
needs

DEFINE THE TERMS BELOW WITH EXAMPLES:

NON-CONTROLLABLE COST

EXAMPLE:

UNIT COST

EXAMPLES

TOTAL COST

EXAMPLES



# ACTIVITY

Understand  
your  
BUSINESS  
needs

DEFINE THE TERMS BELOW WITH EXAMPLES:

PRIME COST

EXAMPLE:

PLANNED COST

EXAMPLES

HISTORICAL COST

EXAMPLES



# ACTIVITY

Understand  
your  
BUSINESS  
needs

DEFINE THE TERMS BELOW WITH EXAMPLES:

FOOD AND BEVERAGE  
COST

EXAMPLE:

LABOR COST

EXAMPLES

OVERHEAD COST

EXAMPLES



M

Measurement

&

Conversion



# MEASUREMENT AND CONVERSION

This chapter helps us to understand about measurement and its conversion. This chapter also involves the conversion in food and beverage establishment.

## Learning outcomes

- 1 Understanding the measurement involved in food establishment.
- 2 Understanding measurement unit.
- 3 Understanding the calculation system.
- 4 Understanding the conversion in measurement.





# MEASUREMENT



Measurement consists of assigning symbol to objects so that it will represents the object numerically or scaling.

There are **TWO** essential kinds of measurement in foodservice operation

- 🍅 Ingredient measurement
- 🍅 Portion measurement

# INGREDIENT MEASUREMENT

Concern with the amount of ingredient in  
term of **weight** & **volume**.



# PORTION MEASUREMENT

Concern with the amount of food item served to the guest in term of portion.



# MEASUREMENT UNIT

## Mass

A recipe or formula will usually indicate which weight is referred by using

- As Purchased (AP) weight
- Edible Portion (EP) weight



As Purchased



Edible Portion



Final Product



# MEASUREMENT UNIT

## Volume

Volume is a measurement of any types of liquid



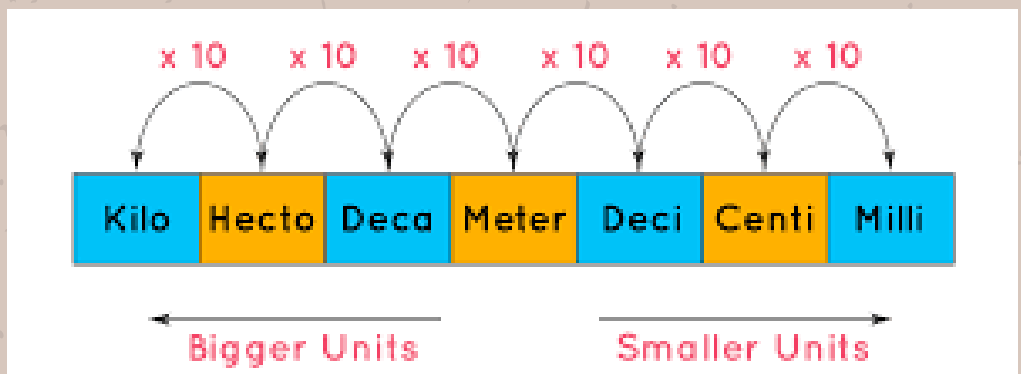
# MEASUREMENT SYSTEM

There are **TWO** system of measurement used in foodservice operation



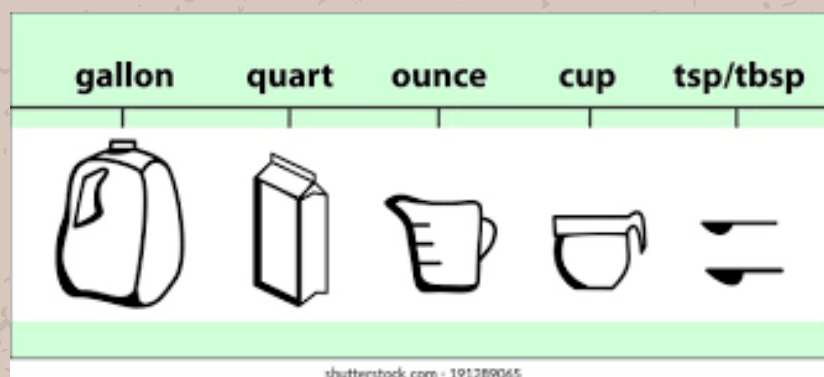
## Metric System

Decimal system based on the number ten



## Imperial System

Foundation of measurement used decade before the revolution.



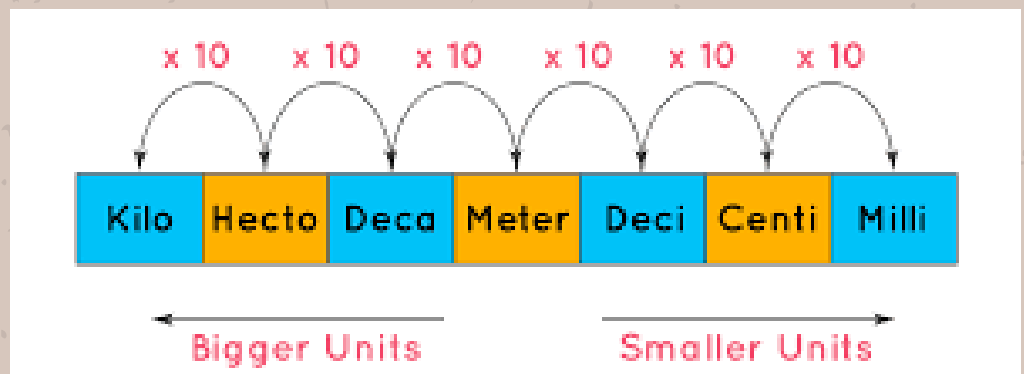
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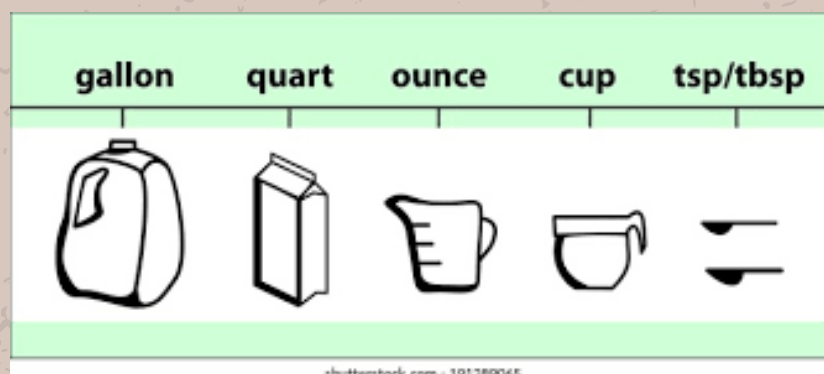
## Metric System

Decimal system based on the number ten



## Imperial System

Foundation of measurement used decade before the revolution.





# CONVERSION

Metric system to imperial system

Measures	Metric system to imperial system		
MASS	1 gram (g)	=	0.035 ounces (oz)
	1 kilogram (kg)	=	2.22 pounds (lb)
CAPACITY	1 mililitre (mℓ)	=	0.2 teaspoon (tsp / t)
	1 mililitre (mℓ)	=	0.07 tablespoon (tbsp / T)
	1 mililitre (mℓ)	=	0.03 fluid ounces (fl. oz)
	1 litres (ℓ)	=	33.33 ounces (oz)
	1 litres (ℓ)	=	4 cups (C)
	1 litres (ℓ)	=	2.1 pints (pt)
	1 litres (ℓ)	=	1.05 quarts (qt)
	1 litres (ℓ)	=	0.026 gallons (gal)
VOLUME	1 cubic meters (m <sup>3</sup> )	=	33.33 cubic feets (ft <sup>3</sup> )
	1 cubic meters (m <sup>3</sup> )	=	1.3 cubic yards (yd <sup>3</sup> )

## EXAMPLE:

Convert 17kg to pound  
= 17kg x 2.22 lb  
= 37.74 lb



# CONVERSION

Imperial system to metric system

Measures	Imperial system to metric system		
MASS	1 ounces (oz)	=	28 grams (g)
	1 pounds (lb)	=	0.45 kilograms (kg)
CAPACITY	1 teaspoon (tsp / t)	=	5 millilitres (mℓ)
	1 tablespoon (tbsp / T)	=	15 millilitres (mℓ)
	1 fluid ounces (fl. oz)	=	30 millilitres (mℓ)
	1 ounces (oz)	=	0.03 litres ( ℓ )
	1 cup (C)	=	0.25 litres ( ℓ )
	1 pint (pt)	=	0.47 litres ( ℓ )
	1 quart (qt)	=	0.95 litres ( ℓ )
	1 gallon (gal)	=	38.46 litres ( ℓ )
VOLUME	1 cubic feet (ft <sup>3</sup> )	=	0.03 cubic meters (m <sup>3</sup> )
	1 cubic yard (yd <sup>3</sup> )	=	0.76 cubic meters (m <sup>3</sup> )

## EXAMPLE:

Convert 83 qt to litres  
= 83 qt. x 0.95 litre  
= 78.85 litres



# Measurement and Conversion Activity



55-quart orange cordials drink mixed with 3-gallon of strawberry cordial drink. How many drinks may be produced? Give the answer in liters unit of measurement.

7.45 pounds of flour can produce 75 pieces of cupcakes. How many flours in grams for each cupcake?



# Measurement and Conversion Activity



A cup Boba drinks with volume of 16 oz is derived from a mixture of 0.1 pint of brown sugar and some plain water. How many plain waters used to prepare Boba drinks?



# Measurement and Conversion Activity



Jeniffer lives at Bario. If she wants to travel home, she only can bring stuff not more than 111 pounds because she needs to travel via helicopter. If her mother, ask her to bring back 35kg of flour, 22.2 lb of sugar, and vegetables oil. How much vegetables oil in ounce can be bringing back if she intends to optimize the weight of stuff that she can carry?

# Calculation OF Raw Food Cost



# CALCULATION OF RAW FOOD COST

This chapter helps us to understand how to calculate the raw food cost based on the recipe.

## Learning outcomes

- 1 Understanding the raw food cost
- 2 Understanding step by step how to calculate raw food cost



## STEP 1

Calculate cost per unit for edible portion.

### Formula:

Cost per unit (Edible Portion)

$$= \frac{\text{Cost per unit (As Purchased)}}{\% \text{ of edible portion}}$$



# Percentage of edible portion



TYPES OF FOOD	% OF WASTE	% OF EDIBLE PORTION
Chicken, meat and lamb		
- Steak (rump) bought and served boneless	25	75
- Steak (sirloin/tenderloin)	15	85
- Steak bought and served boneless	25	75
- Lamb chop	35	65
- Lamb and chicken bought with bones, served boneless	35	65
Seafood		
- Fish (filled)	20	80
- Fish served with bone	60	40
- Prawn, crab	40	60
- Squid	25	75
- Mollusk	25	75
Vegetables		
- Green vegetable	30	70
- Cabbage	10	90
- Cauliflower and broccoli	15	85
- Cucumber served without skin and core	25	75
- Carrot	20	80
- Capsicum, chili	30	70
- Shallots & onion	15	85
- Garlic	20	80
Fruits		
- Watermelon, honey dew, papaya and pineapple	25	75
- Pear and apple	20	80
- Mango	35	65



## EXAMPLE:

Menu : Nasi Buryani

Portion : 10 paxs

AMOUNT OF INGREDIENTS USED	COST / UNIT @ KG (APW)	COST/UNIT @ KG (EP)	TOTAL COST FOR EACH ITEM
1 kg basmati rice	RM 3.60	RM 3.60	RM 3.60
250 gm carrot	RM 2.60	?	?
250 gm shallot	?	RM 5.65	RM 1.41
100 gm potato	RM 2.20	RM 3.10	RM 0.31
400gmlamb(boneless)	RM 15.00	RM 23.01	RM 9.20
200 gm garden peas	RM 5.00	RM 5.00	RM 1.00
½ bottle tomato sauce	RM 1.60	RM 1.60	RM 0.80
¾ can tomato puree	RM 3.20	RM 3.20	RM 2.40
50 gm raisin	RM 6.00	RM 6.00	RM 0.30
50 gm almond	RM 8.00	RM 8.00	RM0.40
10 gm mint leaves	RM 3.00	RM 3.00	RM 0.03
150 gm butter	RM2.50 (250 gm)	RM 2.50	RM 1.50

Cost per unit (Edible Portion) for carrot

$$= \frac{\text{Cost per unit (As Purchased)}}{\text{\% of edible portion}}$$

$$= \frac{\text{RM 2.60}}{\text{80\%}}$$

$$= \frac{\text{RM 2.60}}{0.80}$$

$$= \text{RM 3.25}$$



## STEP 2

Calculate cost per item

### Formula:

Cost per item

$$= \text{Quantity of ingredient used in kg} \times \text{Cost per unit (edible portion)}$$



## EXAMPLE:

Menu : Nasi Buryani

Portion : 10 pax

AMOUNT OF INGREDIENTS USED	COST / UNIT @ KG (APW)	COST/UNIT @ KG (EP)	TOTAL COST FOR EACH ITEM
1 kg basmati rice	RM 3.60	RM 3.60	RM 3.60
250 gm carrot	RM 2.60	?	?
250 gm shallot	?	RM 5.65	RM 1.41
100 gm potato	RM 2.20	RM 3.10	RM 0.31
400gmlamb(boneless)	RM 15.00	RM 23.01	RM 9.20
200 gm garden peas	RM 5.00	RM 5.00	RM 1.00
½ bottle tomato sauce	RM 1.60	RM 1.60	RM 0.80
¾ can tomato puree	RM 3.20	RM 3.20	RM 2.40
50 gm raisin	RM 6.00	RM 6.00	RM 0.30
50 gm almond	RM 8.00	RM 8.00	RM0.40
10 gm mint leaves	RM 3.00	RM 3.00	RM 0.03
150 gm butter	RM2.50 (250 gm)	RM 2.50	RM 1.50

Cost per item for carrot

$$= \text{Quantity of ingredient used in kg} \times \text{Cost per unit (edible portion)}$$

$$= (250 \text{ grams}/1000) \times \text{RM } 3.25$$

$$= 0.25 \text{ kg} \times \text{RM } 3.25$$

$$= \text{RM } 0.82$$



## STEP 3

Calculate total cost for the recipe

### Formula:

Total cost for the recipe

= Summation of all cost for each item used



## EXAMPLE:

Menu : Nasi Buryani

Portion : 10 paxs

AMOUNT OF INGREDIENTS USED	COST / UNIT @ KG (APW)	COST/UNIT @ KG (EP)	TOTAL COST FOR EACH ITEM
1 kg basmati rice	RM 3.60	RM 3.60	RM 3.60
250 gm carrot	RM 2.60	?	?
250 gm shallot	?	RM 5.65	RM 1.41
100 gm potato	RM 2.20	RM 3.10	RM 0.31
400gmlamb(boneless)	RM 15.00	RM 23.01	RM 9.20
200 gm garden peas	RM 5.00	RM 5.00	RM 1.00
½ bottle tomato sauce	RM 1.60	RM 1.60	RM 0.80
¾ can tomato puree	RM 3.20	RM 3.20	RM 2.40
50 gm raisin	RM 6.00	RM 6.00	RM 0.30
50 gm almond	RM 8.00	RM 8.00	RM0.40
10 gm mint leaves	RM 3.00	RM 3.00	RM 0.03
150 gm butter	RM2.50 (250 gm)	RM 2.50	RM 1.50

Total cost for the recipe

== Summation of all cost for each item used

== RM 3.60 + RM 0.82 + RM 1.41 + RM 0.31 +  
RM 9.20 + RM 1.00 + RM 0.80 + RM 2.40 +  
RM 0.30 + RM 0.40 + RM 0.03 + RM 1.50

== RM 21.76



## STEP 4

Calculate food cost per portion

### Formula:

Food cost per portion

$$= \frac{\text{Total cost of a dish}}{\text{Number of portion}}$$



## EXAMPLE:

Menu : Nasi Buryani

Portion : 10 paxs

AMOUNT OF INGREDIENTS USED	COST / UNIT @ KG (APW)	COST/UNIT @ KG (EP)	TOTAL COST FOR EACH ITEM
1 kg basmati rice	RM 3.60	RM 3.60	RM 3.60
250 gm carrot	RM 2.60	?	?
250 gm shallot	?	RM 5.65	RM 1.41
100 gm potato	RM 2.20	RM 3.10	RM 0.31
400gmlamb(boneless)	RM 15.00	RM 23.01	RM 9.20
200 gm garden peas	RM 5.00	RM 5.00	RM 1.00
½ bottle tomato sauce	RM 1.60	RM 1.60	RM 0.80
¾ can tomato puree	RM 3.20	RM 3.20	RM 2.40
50 gm raisin	RM 6.00	RM 6.00	RM 0.30
50 gm almond	RM 8.00	RM 8.00	RM0.40
10 gm mint leaves	RM 3.00	RM 3.00	RM 0.03
150 gm butter	RM2.50 (250 gm)	RM 2.50	RM 1.50

Food cost per portion

$$\frac{\text{Total cost of a dish}}{\text{Number of portion}}$$

$$\frac{\text{RM 21.76}}{10 \text{ portion}}$$

$$= \text{RM 2.71}$$



# ACTIVITY 1

## CALCULATION OF RAW FOOD COST

Below is a recipe for Mixed Tom Yam for 10 portions

AMOUNTS OF INGREDIENTS USED	COST PER KG (APW)	COST PER KG (EP)	TOTAL COST FOR EACH ITEM
220 g prawn	RM 35.00		
500 g chicken fillet	RM 19.00		
150 g squid	RM 26.00		
100 g broccoli	RM 8.50		
100 g cauliflower	RM 6.00		
70 g carrot	RM 2.50		
10 g garlic	RM 6.00		
50g Holland onion	RM 6.50		
30g red chili	RM 8.50		
10 ml oyster sauce	RM 4.00 (400 ml)		
25 ml chili sauce	RM 3.00 (350 ml)		
10 ml tomato sauce	RM 2.80 (350 ml)		
10g salt	RM 1.00		
TOTAL FOOD COST			

a) What is the cost per kg (edible portion) for all ingredients used in recipe?

b) What is the total cost for each item for the "Mixed Tom Yam" dish?



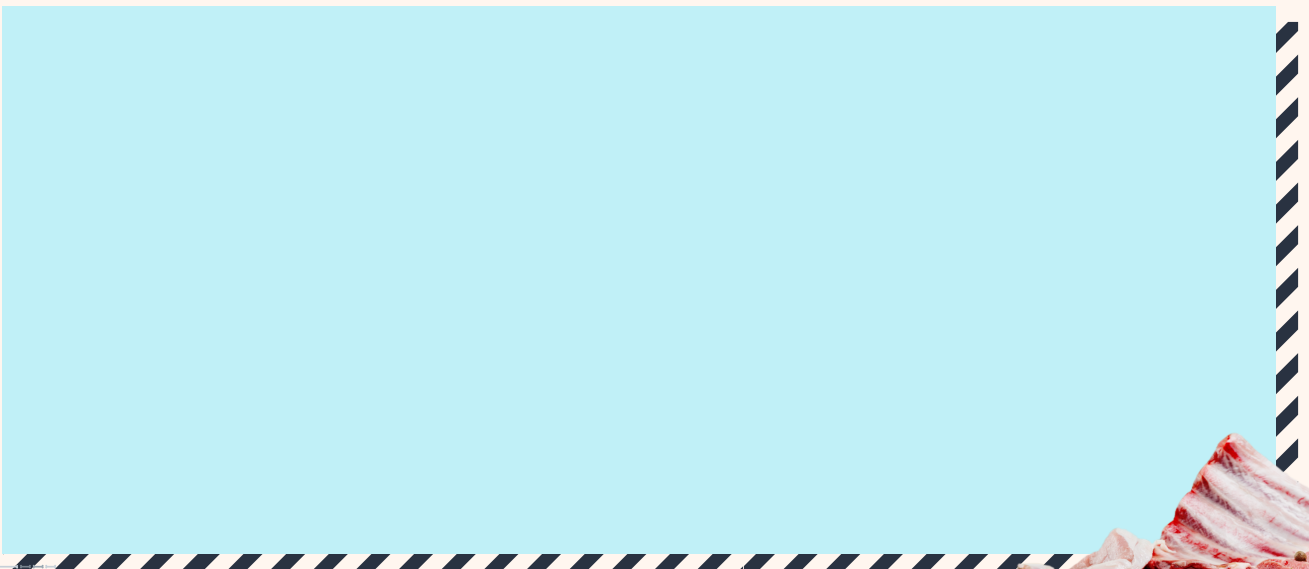
# ACTIVITY 1

## CALCULATION OF RAW FOOD COST

c) What is the total food cost for the "Mixed Tom Yam" dish?



d) What is the food cost per portion for the recipe?



# ACTIVITY 2

## CALCULATION OF RAW FOOD COST

Below is a recipe Mixed Vegetables Sautee for 25 portions

AMOUNTS OF INGREDIENTS USED	COST PER KG (APW)	COST PER KG (EP)	TOTAL COST FOR EACH ITEM
350 g broccoli	RM 6.50		
250 g cauliflower	RM 3.00		
100 g red capsicum	RM 11.90		
100 g green capsicum	RM 8.90		
250 g green salad	RM 7.00		
250g cucumber	RM 5.50		
50 g onions	RM 4.00		
25 g basil	RM 25.00		
20 g parsley	RM 19.00		
180 g thousand island	RM 12.00		

a) What is the cost per kg (edible portion) for all ingredients used in recipe?

b) What is the total cost for each item for the "Mixed Vegetables Saute" dish?



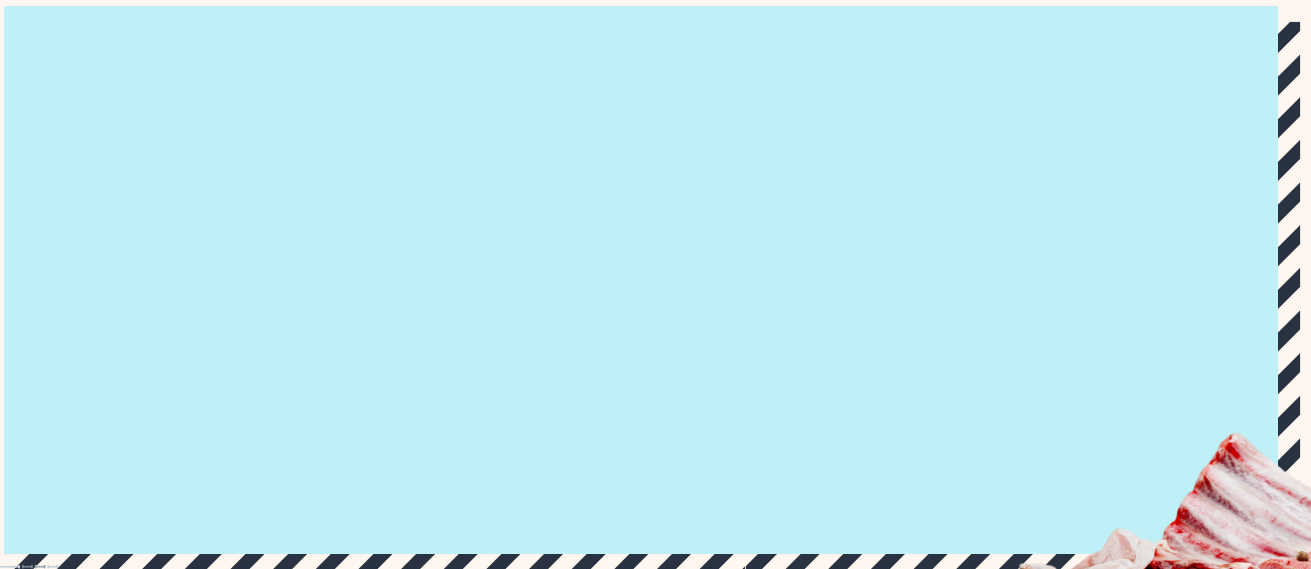
# ACTIVITY 2

## CALCULATION OF RAW FOOD COST

c) What is the total food cost for the "Mixed Vegetables Saute" dish?



d) What is the food cost per portion for the recipe?



# Calculation of Cost of Food Sold



# CALCULATION OF COST OF FOOD SOLD

This chapter helps us to understand how to calculate cost of food sold to determine the actual value of food cost.

## Learning outcomes

- 1 Understanding the entire terms used to calculate cost of food sold
- 2 Understanding step by step how to calculate cost of food sold



# DEFINITION OF TERMS

## Opening Inventory

The same as closing inventory for the previous period.

## Purchases

Adds the value of all direct and stores purchasing during the period.

## Total Available

The total value of all foods available during the period for the production of menu items.

## Closing Inventory

A valuation that is established by the means described earlier.



# DEFINITION OF TERMS

## Cooking liquor

Transfer of alcoholic beverages from bar to kitchen; usually used in food preparation

## Food to bar

Transfer directs from kitchen to bar, where they will be used in drink preparation.

## Transfer from other department

Transfer from other department to food and beverage department

## Transfer to other department

Transfer from food and beverage department to other department in a chain.



# DEFINITION OF TERMS

## Steward sales

Same as reimbursement whereby the employees are permitted to purchased food at cost and take it from premises for their own use.

## Gratis to Bar

Small pastry products that are given free to the customer at the bar.

## Promotion expense

Managers invited people to the property for lunch or dinner and discuss the hospitality products and prices during course of meal.

## Employee meals

Meals that are provided on the premises for employee as a matter of course.



# DEFINITION OF TERMS

## Cost of food issues

The value of all food issues from the storeroom for production purposes.

## Cost of food consume

The value of all food used or consume by the operation.

## Cost of food sold

The value amount of all food actually sold, thrown away, wasted or stolen.



# STEP 1

## Calculate of Cost of Food Issues

### Formula:

$$\begin{array}{rcl} & \text{Opening Inventory} & \\ + & \text{Food Purchases} & \\ \hline = & \text{Total Food Available} & \\ - & \text{Closing Inventory} & \\ \hline = & \text{Cost of Food Issues} & \end{array}$$



## STEP 2

### Calculate of Cost of Food Consumed

#### Formula:

- Cost of food Issues
- + Cooking liquor
- + Transfer from Other Unit
- Food To Bar
- Steward Sales
- Gratis to Bar
- Promotion Expense
- Transfer to Other Unit

---

= Cost of Food Consumed



## STEP 3

Calculate of Cost of Sold

**Formula:**

Cost of Food Consumed  
+ Employee Meals

---

= Cost of Food Sold



# Activity 1

## Calculation of Cost of Food Sold

Food Purchases	: RM 56,542
Beverage Purchases	: RM 11,546
Promotion expense	: RM 489
Closing inventory	: RM 46,117
Gratis to bar	: RM 864
Transfer from others unit	: RM 4,124
Opening inventory	: RM 11,692
Transfer to others unit	: RM 217
Cooking liquor	: RM 5,419
Food to bar	: RM 466

Employees' meal	:
Breakfast	: 100 @ RM 0.90
Lunches	: 80 @ RM 1.00
Dinners	: 40 @ RM 1.30

# Activity 1

Calculate the Cost of food issues for this restaurant.



# Activity 1

Calculate the Cost of food consumed for this restaurant.



# Activity 1

Calculate the Cost of food sold for this restaurant.



# Calculation of Inventory Turnover



# CALCULATION OF INVENTORY TURNOVER

This chapter helps us to understand how to calculate the inventory turnover.

## Learning outcomes

- 1 Understanding the importance of stockpiling
- 2 Understanding step by step how to calculate the inventory turnover



## The greater quantities of stockpiling than needed can lead to significant problem:

- 🍅 Excessive food costs due to spoilage of food stored too long.
- 🍅 Excessive amounts of cash tied up in inventory
- 🍅 Excessive labor costs to receive and store foods
- 🍅 Excessive space required for storage.
- 🍅 Unwarranted opportunities for theft.



It is **impossible** to establish any valid industry wide standards for the foods, the number of units of those foods, or the valuation of food that should be on hand in a foodservice enterprise. A **technique commonly used** to evaluate the adequacy of a food inventory is to calculate how often that inventory has been used and replenished during an accounting period.



## THEREFORE,

Inventory control done to measure how often a food inventory has been consumed and replenished during an accounting period.

Inventory turnover calculations are based on the valuation of an inventory, not on the use of specific items in that inventory.

Inventory turnover rates are calculated at the end of a month, soon after a value has been established for the closing inventory.



# STEP 1

## Calculate Average Inventory

### Formula:

Average Inventory

$$= \frac{\text{Opening Inventory} + \text{Closing Inventory}}{2}$$



## STEP 2

### Calculate Inventory Turnover

#### Formula:

Average Inventory

=

Cost of Food Sold

Average Inventory



# Activity 1

## Calculation of Cost of Food Sold and Inventory Turnover

Food Purchases	: RM 68 543
Beverage Purchases	: RM 12 567
Promotion expense	: RM 81
Closing inventory	: RM 20 963
Gratis to bar	: RM 98
Transfer from others unit	: RM 637
Opening inventory	: RM 22 637
Transfer to others unit	: RM 784
Cooking liquor	: RM 543
Food to bar	: RM 296

Employees' meal	:
Breakfast	: 100 @ RM 0.50
Lunches	: 80 @ RM 0.80
Dinners	: 40 @ RM 1.00

# Activity 1

Given the above figure from the financial records of Italian restaurant chain in Arau, determine cost of food issues



# Activity 1

Given the above figure from the financial records of Italian restaurant chain in Arau, determine cost of food consumed.



# Activity 1

Given the above figure from the financial records of Italian restaurant chain in Arau, determine cost of food sold.



# Activity 1

Calculate the inventory turnover for this restaurant.



# Activity 2

## Calculation of Cost of Food Sold and Inventory Turnover

Purchases	RM 68,543.36
Promotion expense	RM 81.17
Closing inventory	RM 20,963.71
Gratis to bar	RM 58.73
Transfer from other unit	RM 637.38
Food to bar	RM 296.35
Opening inventory	RM 22,687.40
Transfer to other unit	RM 784.29
Cooking liquor	RM 543.18

Employee meal:

a. Executives

: Sales value = RM1,833.75,

: Recent average FC% = 31%

b. Staff

1422 breakfast @RM0.55,

1208 lunches @RM 0.88,

1012 dinners @ RM1.05

# Activity 2

Calculate the Cost of food issues for this restaurant.



# Activity 2

Calculate the Cost of food consumed for this restaurant.



# Activity 2

Calculate the Cost of food sold for this restaurant.



# Activity 2

Calculate the inventory turnover for this restaurant.





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$$\begin{aligned}
 & B \lim_{x \rightarrow 1} \frac{ctgx - 2}{2\sqrt{1 \times 3}} Q'' & \int (x \pm a)^c & e = 2,79 & \frac{A-C}{C} = \\
 & + y^2 = Z & \sum_{n=0}^{+\infty} \frac{x^n}{n!} & \phi = \sqrt{\frac{\sum (x-m)^2}{n-1}} & S = \int_2^{10} 5t dt & x \\
 & e = \cos x + tgy & y & \sin x & y = \frac{\Delta x}{\Delta z} & x \\
 & P = r^2 \pi & h/x \left( \frac{a - \sqrt{a^2 - x^2}}{x} \right) + c & \frac{\Delta x}{\Delta y} = \lim_{\Delta y \rightarrow \infty} \frac{\Delta x + 2}{\Delta y - 1} & \sin x & \\
 & \Delta t = T - \frac{3a}{x} & 8x = 4 - 3y^2 & (x+a)^2 = x^2 + 2ax + a^2 & f_x = & \\
 & (x-y^2) & y = 2x^2 + 3x & (x+y)^2 = \left(\frac{y}{2}\right)^2 & X_{1/2} = \frac{b \pm (a-c)}{\sqrt{2a}} & \\
 & \int = \frac{\sqrt{x+a^2}}{x} & \sum = h-1 & \pi \approx 3,1415 & \tan(2a) = \frac{2 \tan(a)}{1 - \tan^2(a)} & \\
 & P = \sum_{i=0}^{\infty} x_i^a & \ln = \sqrt{a \times b} & S_3 = \begin{bmatrix} 1 & 0 & 0 \\ 1 & 0 & 1 \\ 0 & 0 & 1 \end{bmatrix} & \begin{array}{c} \beta \\ c \\ \alpha \\ a \end{array} & \\
 & = (y-1)^2 \frac{\Delta x}{\Delta z} & (x+h) & \sin a = \frac{b}{c} & a+b+c & x
 \end{aligned}$$

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