

## Key Concepts Summary

Topic	Formula	Example
Currency Conversion	$\text{Amount} \times \text{Exchange Rate}$	$100 \text{ USD} \times 130 = 13,000 \text{ Ksh}$
VAT	$\text{Price} \times (1 + \text{VAT Rate})$	16% VAT on 1,000 Ksh $\rightarrow$ 1,160 Ksh
Excise Duty	$\text{Price} \times (1 + \text{Duty Rate})$	20% on 500 Ksh $\rightarrow$ 600 Ksh
Discount	$\text{Price} \times (1 - \text{Discount Rate})$	10% off 2,000 Ksh $\rightarrow$ 1,800 Ksh

## Helpful Tips

- Use **division** for reverse tax calculations.
- Add **excise duty before** applying VAT if both are included.
- **Commission fees** are typically subtracted after conversion.

## 1. Basic Currency Conversion

**Question:**

Convert \$150 to Kenyan Shillings (Ksh) if 1 USD = 130 Ksh.

**Solution:**

$$150 \times 130 = \boxed{19,500 \text{ Ksh}}$$

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## 2. Reverse Conversion

**Question:**

How many Euros (€) can you get for 50,000 Ksh if 1 EUR = 150 Ksh?

**Solution:**

$$\frac{50,000}{150} = \boxed{333.33 \text{ EUR}}$$

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## 3. VAT Calculation

**Question:**

A laptop costs 45,000 Ksh before tax. What is the total price after 16% VAT?

**Solution:**

$$\text{VAT} = 0.16 \times 45,000 = 7,200 \text{ Ksh} \Rightarrow \boxed{52,200 \text{ Ksh}}$$

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## 4. Excise Duty

**Question:**

A bottle of perfume costs 2,000 Ksh before 20% excise duty. What is the final price?

**Solution:**

$$\text{Duty} = 0.20 \times 2,000 = 400 \text{ Ksh} \Rightarrow \boxed{2,400 \text{ Ksh}}$$

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## 5. VAT + Excise Duty

**Question:**

A TV's factory price is **30,000 Ksh**, with **10% excise duty** and **16% VAT**. Find the final cost.

**Solution:**

- **After Excise:**

$$30,000 + 3,000 = 33,000 \text{ Ksh}$$

- **After VAT:**

$$33,000 + (0.16 \times 33,000) = \boxed{38,280 \text{ Ksh}}$$

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## 6. Discounted Price

**Question:**

A phone priced at **25,000 Ksh** has a **12% discount**. What is the sale price?

**Solution:**

$$\text{Discount} = 0.12 \times 25,000 = 3,000 \Rightarrow \boxed{22,000 \text{ Ksh}}$$

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## 7. Profit Percentage

**Question:**

Shoes bought for **3,500 Ksh** are sold at **4,200 Ksh**. What is the profit percentage?

**Solution:**

$$\text{Profit} = 700 \Rightarrow \left( \frac{700}{3,500} \right) \times 100 = \boxed{20\%}$$

## 8. Exchange with Commission

### Question:

You convert 200 USD to Ksh with 2% bank commission. If 1 USD = 130 Ksh, how much do you get?

### Solution:

- Total:

$$200 \times 130 = 26,000 \text{ Ksh}$$

- Commission:

$$0.02 \times 26,000 = 520 \Rightarrow \boxed{25,480 \text{ Ksh}}$$

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## 9. Multi-Step Currency Conversion

### Question:

Convert 500 GBP to Ksh via USD:

- 1 GBP = 1.40 USD
- 1 USD = 130 Ksh

### Solution:

- GBP to USD:

$$500 \times 1.40 = 700 \text{ USD}$$

- USD to Ksh:

$$700 \times 130 = \boxed{91,000 \text{ Ksh}}$$

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## 10. VAT-Inclusive Price

**Question:**

A restaurant bill is 6,500 Ksh including 16% VAT. What was the price before VAT?

**Solution:**

$$\frac{6,500}{1.16} = 5,603.45 \text{ Ksh}$$

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