ACC 300 · SESSION 17

Inventory records and ownership

Establish inventory cost, determine ownership, and reconcile the records.



What we'll cover

- Manufacturing inventory and cost flows
- Retail inventory and acquisition cost
- Periodic and perpetual inventory systems
- Physical counts and shortages
- Inventory ownership and cutoff corrections

Inventory cost becomes expense when goods sell

Acquire goods on credit

Recognize inventory cost and a supplier payable.

Pay the supplier

Reduce the payable and cash.

Sell the goods

Recognize revenue and the related cost of goods sold.

Cost of goods sold (COGS) is the inventory cost assigned to goods sold.

Retail and manufacturing inventory

Retailer

- Purchases finished goods for resale.

Inventory

Merchandise Inventory
Goods ready for resale

Manufacturer

- Purchases materials and converts them into finished products.

Inventory

Raw Materials
Awaiting use

→

Work in Process
Being manufactured

→

Finished Goods
Ready for sale

Both businesses transfer inventory cost to cost of goods sold when the goods sell.

Manufacturing

Manufacturing inventory



Inventory recordkeeping systems

Companies need records of inventory costs as goods are purchased, produced, and sold. They can maintain those records using a **perpetual** or **periodic inventory system**.

Perpetual

A perpetual system updates inventory accounts as transactions occur.

Periodic

A periodic system determines ending inventory and cost of goods sold at period-end.

> The manufacturing and retail examples begin with perpetual records. After completing those examples, we will compare periodic entries and closing.

What costs go into Raw Materials?

A manufacturer records purchased materials in Raw Materials until they are used in production. Their cost includes acquiring the materials and bringing them to the location and condition needed for production.

Purchase price:	The amount charged by the supplier, after any price reductions.
Inbound freight:	The normal cost of transporting purchased materials to their production location.
Other acquisition costs:	Normal handling and preparation costs needed to make the materials ready for use.

Include these costs even when a company pays a carrier or another provider separately from the materials supplier.

Raw Materials includes direct and indirect materials

Raw Materials holds both direct and indirect materials before use. The route into Work in Process (WIP) depends on whether we can trace the material to a product or batch.

Raw Materials

Unused direct and indirect materials

Direct materials used

- Trace the cost economically to a product or batch.
- Examples: flour in bread, wood in furniture, and steel in refrigerator doors.

Manufacturing Overhead

- Tracing these materials to each batch is impractical.
- Examples: equipment-cleaning supplies, machine lubricants, and untracked small amounts of glue.
- Collect the costs with other indirect factory costs, then allocate the pool.

Work in Process

Direct materials cost and allocated overhead enter Work in Process.

Find the direct materials used

WALKTHROUGH

Common Grounds roasts and packages coffee. The entries below summarize November's inventory movements, which Common Grounds records as they occur. Use the Raw Materials account to find direct materials used.

Raw Materials

BB	**$900**		
Beans and packaging purchased	**$5,280**		
Cleaning supplies purchased	**$420**		
		?	Direct materials used
		$360	Indirect materials used
EB	**$1,200**		

- The November 30 count and acquisition records establish the cost of unused materials in EB.
- Usage records identify the cleaning supplies used as indirect materials.
- Subtract unused materials from beginning materials plus purchases to find total materials used. Then subtract indirect materials used to find direct materials used.

Purchases are on credit and include all acquisition costs. There are no shortages or abnormal costs.

Record direct and indirect materials used

WALKTHROUGH

The materials account establishes total use. Subtract the $360 of indirect materials identified in usage records to find the direct materials assigned to coffee batches.

Raw Materials

BB	**$900**		
Beans and packaging purchased	**$5,280**		
Cleaning supplies purchased	**$420**		
		$5,040	Direct materials used
		$360	Indirect materials used
		Total materials used = $5,400	
EB	**$1,200**		

Account	Debit	Credit
Work in Process	$5,040	
Manufacturing Overhead	$360	
Raw Materials		$5,400

The indirect-materials cost enters Manufacturing Overhead for allocation to production.

Assign direct labor to Work in Process

Production also uses employees' work and shared factory resources. Direct labor can be traced to production; overhead requires allocation.

Direct labor is the cost of labor directly involved in converting materials into finished products, when that labor can be traced economically to a specific product or batch.

Examples include roasting coffee, assembling furniture, and stitching gloves. Tracing a salary to a product is not enough; the employee must perform the production work.

Common Grounds' time records identify 124 hours of roasting and packaging work in November. The labor cost is $25 per hour, all unpaid.

Direct labor cost = 124 hours × $25 per hour = $3,100.

Account	Debit	Credit
Work in Process	$3,100	
Wages Payable		$3,100

The recorded hours identify the production receiving the labor cost, so we debit Work in Process.

Allocate indirect factory costs to production

1 Collect indirect factory costs

Manufacturing overhead includes indirect materials, factory depreciation, utilities, and supervision. Collect them in Manufacturing Overhead.

2 Choose an allocation base

Use a measure that reflects how products or batches use factory resources:

- **Machine-hours:** production depends mainly on equipment.
- **Direct labor-hours:** production depends mainly on workers' time.

3 Assign overhead to production

Rate at normal capacity: Total overhead ÷ total machine-hours = overhead cost per machine-hour.

Batch allocation: Overhead cost per machine-hour × machine-hours used by the batch.

Why use direct labor-hours for an indirect cost? We can trace workers' time to batches and use those hours to divide shared costs. More production work may require more factory supervision. The supervision cost remains indirect.

Collect Common Grounds' indirect factory costs

WALKTHROUGH

Common Grounds has $1,440 of factory equipment depreciation in November.

Account	Debit	Credit
Manufacturing Overhead	$1,440	
Accumulated Depreciation		$1,440

Manufacturing Overhead

DEBIT		CREDIT
Previously recorded: indirect materials used	**$360**	
Factory equipment depreciation	**$1,440**	

Total overhead to allocate = $360 cleaning supplies used + $1,440 depreciation = $1,800.

These are November's only overhead costs. Common Grounds operates at normal capacity. Neither cost has yet been allocated to Work in Process.

Divide the overhead pool between two batches

WALKTHROUGH

Common Grounds works on two coffee batches in November. Batch A uses 210 machine-hours; Batch B uses 90 machine-hours.

Total use = 210 machine-hours + 90 machine-hours = 300 machine-hours.

Overhead per machine-hour = $1,800 ÷ 300 machine-hours = $6 per machine-hour.

Batch	Allocation calculation	Overhead assigned
A	210 machine-hours × $6 per machine-hour	$1,260
B	90 machine-hours × $6 per machine-hour	$540
Total		**$1,800**

Manufacturing Overhead

Indirect materials used	**$360**		
Factory equipment depreciation	**$1,440**		
		$1,260	Allocated to Batch A
		$540	Allocated to Batch B

Account	Debit	Credit
Work in Process: Batch A	$1,260	
Work in Process: Batch B	$540	
Manufacturing Overhead		$1,800

Both batches belong to Work in Process. The allocation includes the cleaning-supplies cost already collected in overhead.

Some costs remain current expenses

Selling and general administrative costs are normally excluded from inventory and recognized as current expenses.

Selling costs

Roasting labor and equipment help Common Grounds produce its coffee. Advertising attracts buyers, and sales commissions compensate selling activity. Those selling activities do not produce the coffee or bring it to its inventory location and condition, so their costs are expenses.

General administration

General office administration supports the business as a whole. These costs are normally expenses unless they clearly relate to production.

> Abnormal freight, handling, and wasted materials are expensed. Abnormally low production also does not justify raising fixed overhead per unit to absorb every factory cost.

Which costs belong in inventory?

Quick check | Question 1 of 3

Common Grounds operates at normal capacity. Which pair of costs should it include in manufacturing overhead allocated to inventory?

A. Factory insurance and sales staff salaries.

B. Company-wide payroll staff salaries and routine repairs to roasting equipment.

C. Factory insurance and routine repairs to roasting equipment.

D. Sales staff salaries and company-wide payroll staff salaries.

E. Company-wide payroll staff salaries and factory insurance.

Which costs belong in inventory: answer

Quick check | Answer 1 of 3

Correct answer: C.

Common Grounds operates at normal capacity. Which pair of costs should it include in manufacturing overhead allocated to inventory?

A **Factory insurance and sales staff salaries.**
Incorrect. Factory insurance is a production cost; sales staff salaries are selling expenses.

B **Company-wide payroll staff salaries and routine repairs to roasting equipment.**
Incorrect. Routine equipment repairs support production; company-wide payroll staff salaries are general administrative expenses.

C **Factory insurance and routine repairs to roasting equipment.**
Correct. Both costs support factory operations and enter inventory through allocated manufacturing overhead.

D **Sales staff salaries and company-wide payroll staff salaries.**
Incorrect. Sales staff salaries are selling expenses, and company-wide payroll staff salaries are general administrative expenses.

E **Company-wide payroll staff salaries and factory insurance.**
Incorrect. Factory insurance supports production, but company-wide payroll staff salaries are general administrative expenses.

Transfer completed production out of Work in Process

WALKTHROUGH

Cost of goods manufactured is the accumulated production cost of goods completed during the period.

Common Grounds begins November with $750 in unfinished coffee. The November 30 count identifies unfinished coffee. Production records assign $1,250 of materials, labor, and allocated overhead to that coffee. Subtract those unfinished costs from the costs accumulated in WIP to find the cost of completed production.

Work in Process

Beginning balance	**$750**		
Direct materials used	**$5,040**		
Direct labor	**$3,100**		
Allocated overhead	**$1,800**		
Current production costs = $9,940			
		$9,440	Cost of goods manufactured
Ending balance	**$1,250**		

Account	Debit	Credit
Finished Goods	$9,440	
Work in Process		$9,440

Completion changes the stage of the goods. Their accumulated production cost remains an asset because the coffee has not yet sold.

Assign the cost of finished coffee sold

WALKTHROUGH

Common Grounds begins November with completed, unsold coffee costing $2,100, carried forward from October.

Use the cost of completed coffee available for sale and the ending balance to find the cost of coffee sold.

The November 30 count identifies completed coffee still on hand. Production cost records establish its $2,800 cost.

Finished Goods

Beginning balance	**$2,100**		
Completed production (transferred from WIP)	**$9,440**		
		$8,740	Cost of goods sold
Ending balance	**$2,800**		

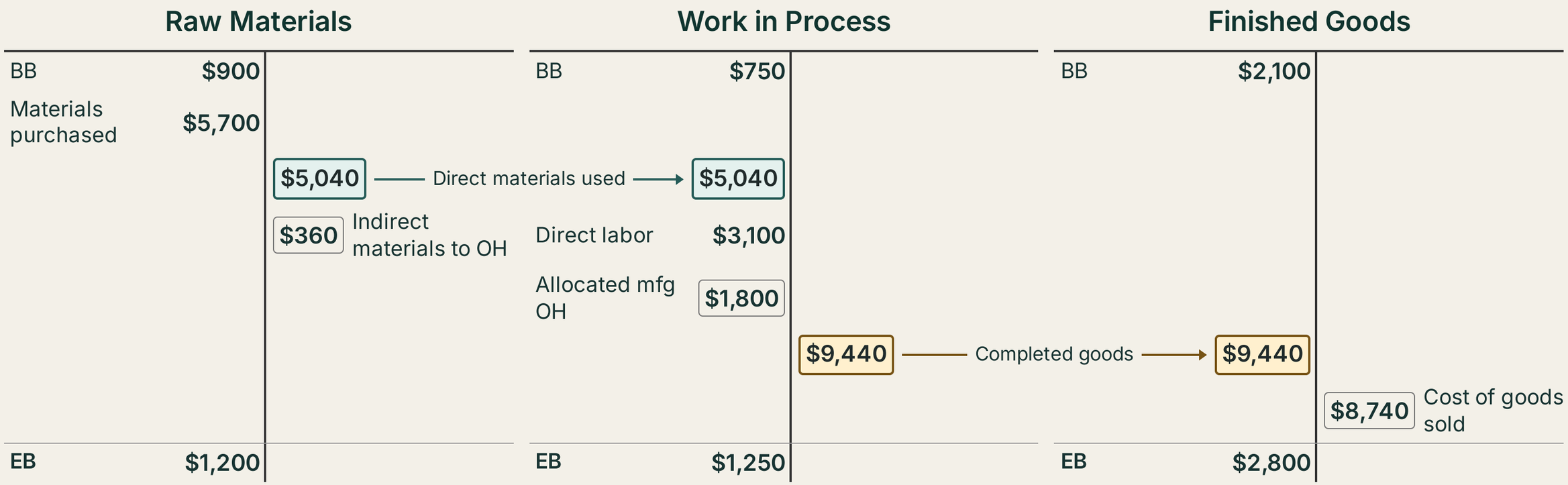
Completed coffee still on hand remains in Finished Goods.

Account	Debit	Credit
Cost of Goods Sold	$8,740	
Finished Goods		$8,740

A revenue entry also records the sale at its selling price. This example follows the production cost transferred to expense.

Find the costs transferred out of each inventory account

Costs transferred out = beginning cost + costs added − ending cost. Subtract the costs still held to find the costs that left.



Materials used = $900 + $5,700 − $1,200 = $5,400. Usage records identify $360 as indirect, leaving $5,040 of direct materials.

The $360 joins the overhead pool. WIP receives the **$1,800 allocated manufacturing overhead**, which includes that indirect-materials cost and factory depreciation.

Guided walkthrough: assign December materials and production costs

GUIDED WALKTHROUGH

Separate December case for Common Grounds

Use the beginning and ending inventories to reconstruct December's cost transfers. Explain which costs reach production directly and through overhead, then calculate completed and sold costs.

Inventory	Beginning cost	Ending cost
Raw Materials, direct and indirect combined	$1,350	$1,100
Work in Process	$1,700	$900
Finished Goods	$2,600	$1,900

Purchases: $5,680 beans and packaging and $570 cleaning supplies. Usage records identify $480 of cleaning supplies consumed.

Direct labor is $3,450. Factory utilities are $1,670. The supplied overhead allocation is $2,150, equal to actual overhead for this case.

1. Calculate total materials used and direct materials used. Explain the materials-use entry.
2. Reconcile the overhead pool and identify the cost allocated to WIP.
3. Calculate cost of goods manufactured and COGS. Explain why completed costs can exceed costs added this month.

All costs are normal. There are no shortages or other overhead costs. Counts and production records establish ending costs. These opening balances are supplied, not carried forward from November.

Pause here if you'd like to try the problem. Then continue for the worked solution.

Assign used materials directly or through overhead

WORKED SOLUTION

Purchases = $5,680 beans and packaging + $570 cleaning supplies = $6,250.

Raw Materials

BB	**$1,350**		
Materials purchased	**$6,250**		
		$6,500	Total materials used
EB	**$1,100**		

Total materials used = $1,350 beginning materials + $6,250 purchases − $1,100 unused materials = **$6,500**.

Direct materials used = $6,500 total used − $480 indirect materials used (from usage records) = **$6,020**.

Account	Debit	Credit
Work in Process	$6,020	
Manufacturing Overhead	$480	
Raw Materials		$6,500

Overhead collected = $480 cleaning supplies + $1,670 factory utilities = **$2,150**. The supplied allocation transfers this pool to WIP, including the cleaning-supplies cost once.

Determine which production costs left inventory

WORKED SOLUTION

Subtract the costs still held in each account to find the costs transferred out.



This month's additions to WIP total $6,020 + $3,450 + $2,150 = **$11,620**.
Common Grounds finished some coffee that was already partly made at the start of December. Its completed production therefore includes costs incurred before December, as well as costs added this month. Costs assigned to coffee still unfinished remain in WIP.

Retail inventory



Retail inventory receives goods ready for resale

Common Grounds makes its coffee. Sound Decision, a musical instrument retailer, purchases finished instruments for resale.

	Common Grounds: manufacturer	Sound Decision: retailer
How goods become ready for sale	Produces the coffee.	Buys finished instruments.
Cost entering inventory ready for sale	Cost of goods manufactured enters **Finished Goods**.	Acquisition cost enters **Merchandise Inventory**.
When goods sell	Debit **Cost of Goods Sold**; credit **Finished Goods**.	Debit **Cost of Goods Sold**; credit **Inventory**.

Sound Decision's entries use the account name Inventory for merchandise inventory.

Recap: purchase adjustments

In the A/R lecture, we considered these events from the seller's perspective. Now consider the buyer: the same price reductions lower inventory acquisition cost and, while unpaid, the amount owed to the supplier.

Adjustment	What changes?
Trade discount	Reduces the list price used to establish the invoice.
Purchase return	Removes goods and their cost.
Purchase allowance	Reduces cost while the buyer keeps the goods.
Settlement discount taken	Reduces the eligible unpaid amount for timely payment.

The buyer records the supplier obligation in **Accounts Payable**. Normal inbound freight adds to acquisition cost, even when paid separately.

Sound Decision purchases one model of ukulele

WALKTHROUGH

November purchase

Sound Decision uses a **perpetual inventory system**, so the purchase, return, freight, and settlement discount update Inventory as they occur. Determine the total acquisition cost and cost per ukulele retained, and record the transactions.

Fact	Supplied amount
Quantity ordered on credit	125 ukuleles
List price	$100 per ukulele
Trade discount	25%
Damaged ukuleles returned before payment	5 ukuleles
Settlement discount taken on the retained goods	2%
Normal inbound freight paid separately	$540

The supplier pays return freight. There is no allowance. All retained goods remain unsold through payment. The discount applies to the invoice remaining after the return.

Record the purchase and remove the returned goods

WALKTHROUGH

Sound Decision buys 125 ukuleles on credit at a list price of $100 each, less a 25% trade discount. It returns 5 damaged ukuleles before payment.

Under perpetual records, the invoice increases Inventory and Accounts Payable; the return reduces both.

Step	Calculation	Result
Invoice price per ukulele	$100 per ukulele × (100% − 25%)	$75 per ukulele
Original invoice	125 ukuleles × $75 per ukulele	$9,375

Record the invoice:

Account	Debit	Credit
Inventory	$9,375	
Accounts Payable		$9,375

Returning goods removes their cost and the amount owed for them.

Return: 5 ukuleles × $75 per ukulele = $375.

Account	Debit	Credit
Accounts Payable	$375	
Inventory		$375

Settle the supplier balance and record inbound freight

WALKTHROUGH

Sound Decision takes a 2% settlement discount on the invoice remaining after the return. All retained ukuleles are still unsold, so the discount reduces Inventory. It also pays $540 of normal inbound freight separately.

Supplier balance: $9,375 invoice − $375 return = $9,000.

Discount: $9,000 supplier balance × 2% = $180.

Cash paid to supplier = $9,000 balance − $180 discount = $8,820.

Account	Debit	Credit
Accounts Payable	$9,000	
Cash		$8,820
Inventory		$180

Freight paid separately: The carrier brings the goods to Sound Decision, so the freight increases Inventory.

Account	Debit	Credit
Inventory	$540	
Cash		$540

Determine the cost per retained ukulele

WALKTHROUGH

The supplier payment already reflects the return and settlement discount. Include the separately paid inbound freight to establish the goods' total acquisition cost.

Acquisition cost	Amount
Supplier payment after the return and discount	$8,820
Add normal inbound freight paid separately	$540
Total inventory cost	**$9,360**

Quantity retained = 125 purchased ukuleles − 5 returned ukuleles = **120 ukuleles**.

Cost per ukulele = $9,360 total cost ÷ 120 retained ukuleles = **$78 per ukulele**.

Use this unit cost to determine the inventory cost transferred to expense when the ukuleles sell.

Record the sale at selling price and remove inventory at cost

WALKTHROUGH

November fact	Quantity or amount
Beginning inventory	18 ukuleles at $78 each
Retained from the worked purchase	120 ukuleles costing $9,360
Sold on credit on November 20	97 ukuleles at $140 each

Beginning inventory cost = 18 ukuleles × $78 per ukulele = $1,404.

Beginning and newly acquired ukuleles have the same final unit cost. These sales are final, with no return rights. No other movements occur.

Revenue: 97 ukuleles × $140 per ukulele = $13,580.

Account	Debit	Credit
Accounts Receivable	$13,580	
Sales Revenue		$13,580

Perpetual cost entry: 97 ukuleles × $78 per ukulele = $7,566.

Account	Debit	Credit
Cost of Goods Sold	$7,566	
Inventory		$7,566

Selling price determines revenue. The cost of the goods delivered becomes cost of goods sold.

The records establish an expected quantity

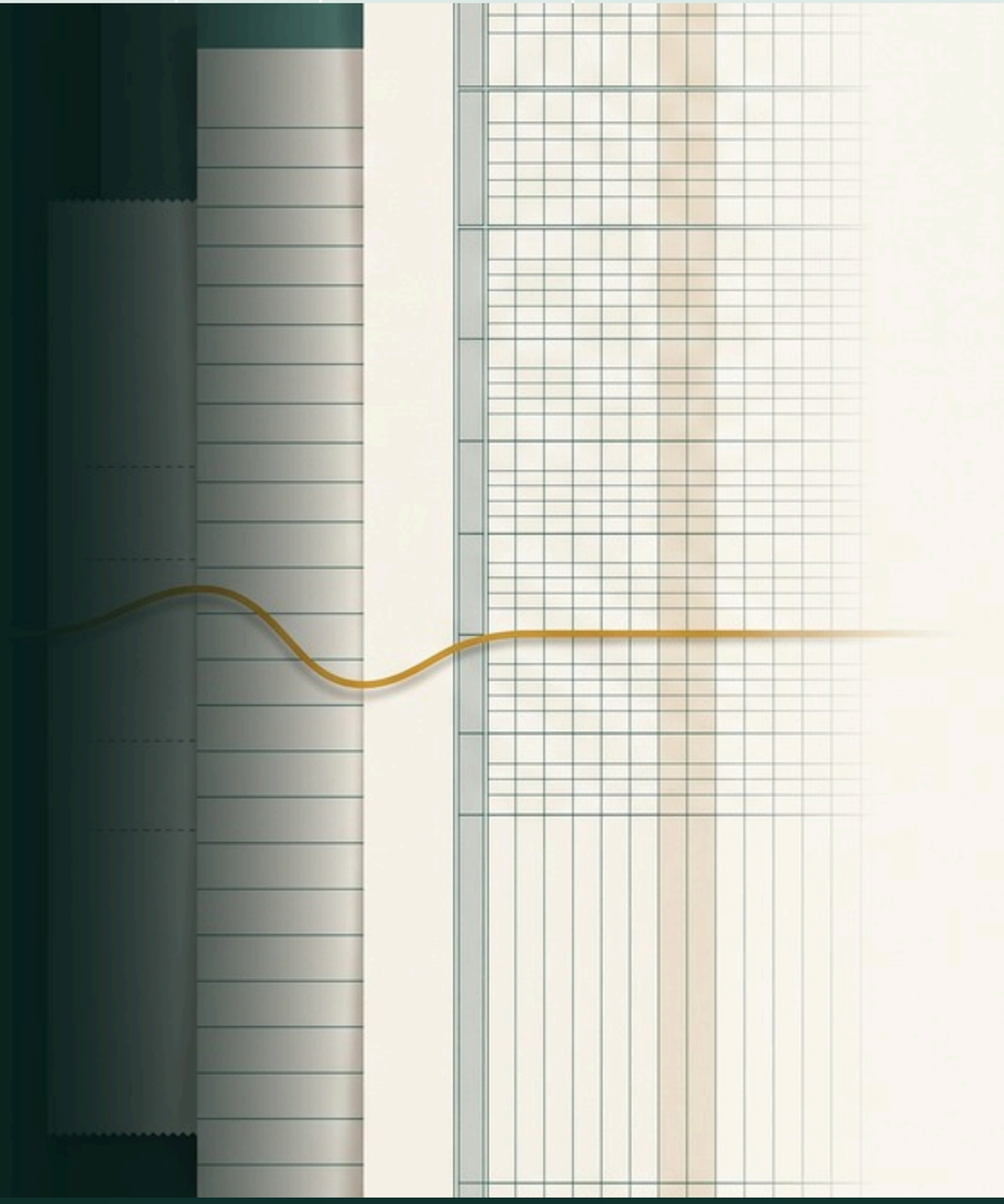
WALKTHROUGH

18 beginning ukuleles + 120 retained ukuleles − 97 sold ukuleles = **41 expected ukuleles**.

Expected cost: 41 ukuleles × $78 per ukulele = **$3,198**.

The perpetual Inventory account reports $3,198. A physical count is still needed to confirm that the expected ukuleles are present.

Periodic inventory records



Periodic records collect purchase costs outside Inventory

We already recorded Sound Decision's November purchases and sale using perpetual accounting. Now we'll rework those same transactions using periodic accounting instead. Sound Decision closes monthly. Inventory's beginning balance doesn't change until the monthly close.

Because Inventory is not updated during the month, purchase costs and reductions accumulate in temporary accounts until closing:

Account	What it records	Usual entry
Purchases	Supplier invoice cost after the trade discount.	Debit
Purchase Returns and Allowances	Reductions in purchase cost for returned goods or allowances.	Credit
Purchase Discounts	Settlement discounts taken.	Credit
Freight-In	Normal inbound transportation cost.	Debit

At closing, combine these accounts to determine net purchase cost. Use that cost with beginning and ending Inventory to calculate cost of goods sold, then close the temporary accounts.

Record the periodic purchase and return

WALKTHROUGH

Use the same ukulele transaction amounts. Purchase accounts collect the cost while Inventory retains its beginning balance.

Invoice: 125 ukuleles × $75 per ukulele = $9,375.

Account	Debit	Credit
Purchases	$9,375	
Accounts Payable		$9,375

Return: 5 ukuleles × $75 per ukulele = $375.

Account	Debit	Credit
Accounts Payable	$375	
Purchase Returns and Allowances		$375

Record freight and settlement in periodic accounts

WALKTHROUGH

Inbound freight paid separately: $540.

Account	Debit	Credit
Freight-In	$540	
Cash		$540

Settlement: The $9,375 invoice less the $375 return leaves a supplier balance of $9,000. The settlement discount is $9,000 × 2% = $180, leaving $8,820 payable in cash.

Account	Debit	Credit
Accounts Payable	$9,000	
Cash		$8,820
Purchase Discounts		$180

Freight adds to acquisition cost and the discount reduces it. These amounts remain in the temporary purchase accounts until closing.

Which entry belongs at the time of sale?

Quick check | Question 2 of 3

Sound Decision uses periodic records. It has recorded the purchase of ukuleles in Purchases and now records a final credit sale in Accounts Receivable and Sales Revenue. How should it account for the cost of the ukuleles sold at this point?

A Make no inventory-cost entry at the time of sale.

B Debit COGS and credit Inventory for the cost sold.

C Debit COGS and credit Purchases for the cost sold.

D Debit Inventory and credit Purchases for the cost sold.

E Debit COGS and credit Inventory for the selling price.

Which entry belongs at the time of sale: answer

Quick check | Answer 2 of 3

Correct answer: A.

Sound Decision uses periodic records. It has recorded the purchase of ukuleles in Purchases and now records a final credit sale in Accounts Receivable and Sales Revenue. How should it account for the cost of the ukuleles sold at this point?

A **Make no inventory-cost entry at the time of sale.**
Correct. Closing uses beginning inventory, net purchase cost, and ending inventory to determine COGS.

B **Debit COGS and credit Inventory for the cost sold.**
Incorrect. The periodic Inventory balance still represents beginning inventory. Crediting it for sales would mix two recording methods.

C **Debit COGS and credit Purchases for the cost sold.**
Incorrect. Purchases records acquisitions during the period. Closing accounts for unsold goods through ending inventory.

D **Debit Inventory and credit Purchases for the cost sold.**
Incorrect. A sale does not add inventory. The periodic cost accounts remain unchanged until closing.

E **Debit COGS and credit Inventory for the selling price.**
Incorrect. Revenue uses selling price. Inventory and COGS use cost, which periodic records assign at closing.

Continue the periodic example: November COGS

WALKTHROUGH

We've recorded the November purchase activity in periodic accounts. Now, at month-end, we use those costs and ending inventory to calculate cost of goods sold. Assume the physical count confirms all 41 expected ukuleles.

Net purchase cost = $9,375 Purchases − $375 returns − $180 discounts + $540 Freight-In = $9,360.

Ending inventory = 41 ukuleles × $78 per ukulele = $3,198.

Cost reconciliation	Amount
Beginning inventory	$1,404
Add net purchase cost	$9,360
Cost available for sale	$10,764
Less confirmed ending inventory	($3,198)
Cost of goods sold	**$7,566**

At closing, remove beginning inventory and close the purchase accounts. Record ending inventory and the derived cost of goods sold.

The closing entry establishes the periodic balances

WALKTHROUGH

Account	Debit	Credit
Inventory	$3,198	
Cost of Goods Sold	$7,566	
Purchase Returns and Allowances	$375	
Purchase Discounts	$180	
Inventory		$1,404
Purchases		$9,375
Freight-In		$540

Debit Inventory for the confirmed ending cost and credit it to remove the beginning balance. Close Purchases and Freight-In with credits, and the purchase reductions with debits.

The remaining debit records November's cost of goods sold. After this entry, Inventory reports $3,198 and the temporary purchase accounts have no balance.

Both systems reach the same balances at monthly closing

WALKTHROUGH

Sound Decision begins November with $1,404 in Inventory. Its ukulele purchase adds $9,360 of acquisition cost. All purchases settle before the November 20 sale.

Point in November	Perpetual Inventory	Periodic Inventory
After the purchase, return, freight, and payment	$10,764: the costs have updated Inventory.	$1,404: purchase costs remain in temporary accounts.
November 20: after selling 97 ukuleles	$3,198: the sale removes $7,566 of inventory cost.	$1,404: the sale records revenue, with no inventory-cost entry.
November 30: after closing with the confirmed count	**$3,198**	**$3,198**

Both report $7,566 of November cost of goods sold. Perpetual records recognize that cost at sale; periodic records calculate and record it at monthly closing.

The timing distinction also applies to manufacturing. Manufacturers track Raw Materials, Work in Process, and Finished Goods rather than one merchandise inventory account.

Physical inventory counts



A count difference needs investigation

A physical count verifies the quantities on hand. Compare those quantities with the inventory records and investigate any differences.

Correct

recording errors in the affected accounts.

Record

verified missing goods as **inventory shrinkage**.

Sound Decision verifies a shortage

WALKTHROUGH

Now suppose Sound Decision's November 30 count finds 38 ukuleles instead of the expected 41 ukuleles. Calculate and record the shortage under perpetual accounting.

Cost per ukulele: $78.

Expected: 18 beginning ukuleles + 120 purchased and retained ukuleles − 97 sold ukuleles = **41 ukuleles**.

Verified count: **38 ukuleles**. All counted goods are owned. Ownership, cutoff, and transaction records are correct; no owned goods are elsewhere.

Shortage: 41 ukuleles − 38 ukuleles = 3 ukuleles.

Shortage cost: 3 ukuleles × $78 per ukulele = **$234**.

Account	Debit	Credit
Inventory Shrinkage Expense	$234	
Inventory		$234

Ending inventory: 38 ukuleles × $78 per ukulele = **$2,964**.

A separate expense account makes the shortage visible. Ordinary shrinkage may be included in COGS for financial reporting. No sale or additional revenue arises from the shortage.

Same shortage under periodic accounting

WALKTHROUGH

Now apply periodic accounting to Sound Decision's count of 38 ukuleles at $78 each.

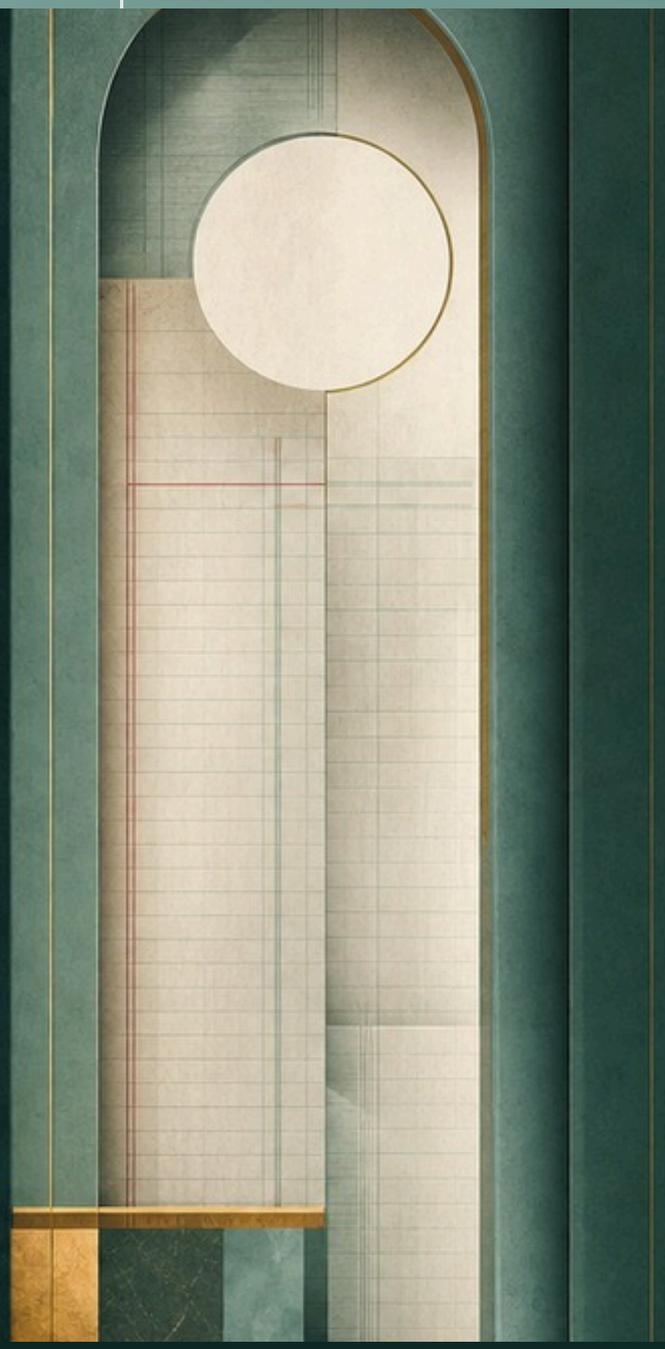
Cost reconciliation	Amount
Beginning inventory	$1,404
Add net purchase cost	$9,360
Cost available for sale	$10,764
Less counted ending inventory	($2,964)
Periodic COGS	**$7,800**

Report the shortage separately

Periodic closing establishes $2,964 in Inventory and $7,800 in COGS.

Account	Debit	Credit
Inventory Shrinkage Expense	$234	
Cost of Goods Sold		$234

Move the $234 shortage from COGS to Inventory Shrinkage Expense. Inventory stays at $2,964.



Ownership

Inventory ownership

Which goods belong in inventory?

A company may own goods held elsewhere and hold goods owned by someone else.

Include

goods the company owns, even when they are elsewhere.

Exclude

goods owned by others, even when they are on the company's premises.

Who owns goods in transit?

A **carrier** transports goods. **FOB** means free on board.

When does the contract transfer control to the buyer: is it when the seller ships the goods or when the buyer receives them?

FOB shipping point: control transfers at shipment

Seller

Seller gives goods to carrier

Control transfers

→



Buyer's inventory

While goods are in transit

→

Buyer

Buyer receives goods

FOB destination: control transfers at delivery

Seller

Seller gives goods to carrier

→



Seller's inventory

While goods are in transit

→

Buyer

Buyer receives goods

Control transfers

Determine whether the transfer occurred by the reporting date.

These examples assume no other contract terms change when control transfers.

The consignor owns goods held by the consignee

Consignor: the owner

- Sends goods to another business to sell on its behalf.
- Keeps unsold goods in its inventory.

Consignee: the seller for the owner

- Holds the goods and sells them for the consignor, usually earning a commission.
- Excludes those goods from its own inventory.

Sound Decision holds a supplier's instruments

- The supplier can require their return. Sound Decision has no unconditional obligation to pay before a customer sale.
- The supplier reports the unsold instruments in inventory. Sound Decision excludes them.

If Sound Decision places its own instruments with another dealer under the same terms, Sound Decision retains the inventory.

Which goods belong in Sound Decision inventory?

Quick check | Question 3 of 3

At year-end, Sound Decision has an incoming FOB shipping-point shipment and an outgoing FOB destination shipment in transit. It also holds a supplier's consigned instruments. The supplier retains control of the consigned goods. No other terms change control transfer. Which goods belong in Sound Decision's inventory?

A The incoming shipment only.

B Both shipments, excluding the consigned instruments.

C The outgoing shipment only.

D Both shipments and the consigned instruments.

E The consigned instruments only.

Which goods belong in Sound Decision inventory: answer

Quick check | Answer 3 of 3 — **Correct answer: B.**

At year-end, Sound Decision has an incoming FOB shipping-point shipment and an outgoing FOB destination shipment in transit. It also holds a supplier's consigned instruments. The supplier retains control of the consigned goods. No other terms change control transfer. Which goods belong in Sound Decision's inventory?

A **The incoming shipment only.**
Incorrect. Sound Decision also retains the outgoing destination shipment until delivery.

B **Both shipments, excluding the consigned instruments.**
Correct. It owns the incoming goods from shipment and the outgoing goods until delivery. The supplier owns the consigned instruments.

C **The outgoing shipment only.**
Incorrect. The incoming shipping-point goods already belong to Sound Decision.

D **Both shipments and the consigned instruments.**
Incorrect. Holding the consigned instruments does not transfer the supplier's control to Sound Decision.

E **The consigned instruments only.**
Incorrect. Physical presence would include the supplier's goods and omit Sound Decision's goods in transit.

Customer returns and inventory

A customer's right to return goods does not prevent the seller from transferring control at the sale. As we covered in Chapter 14, the seller reports the cost it expects to recover from returned goods as a separate asset. That requirement applies under both perpetual and periodic accounting.

Perpetual

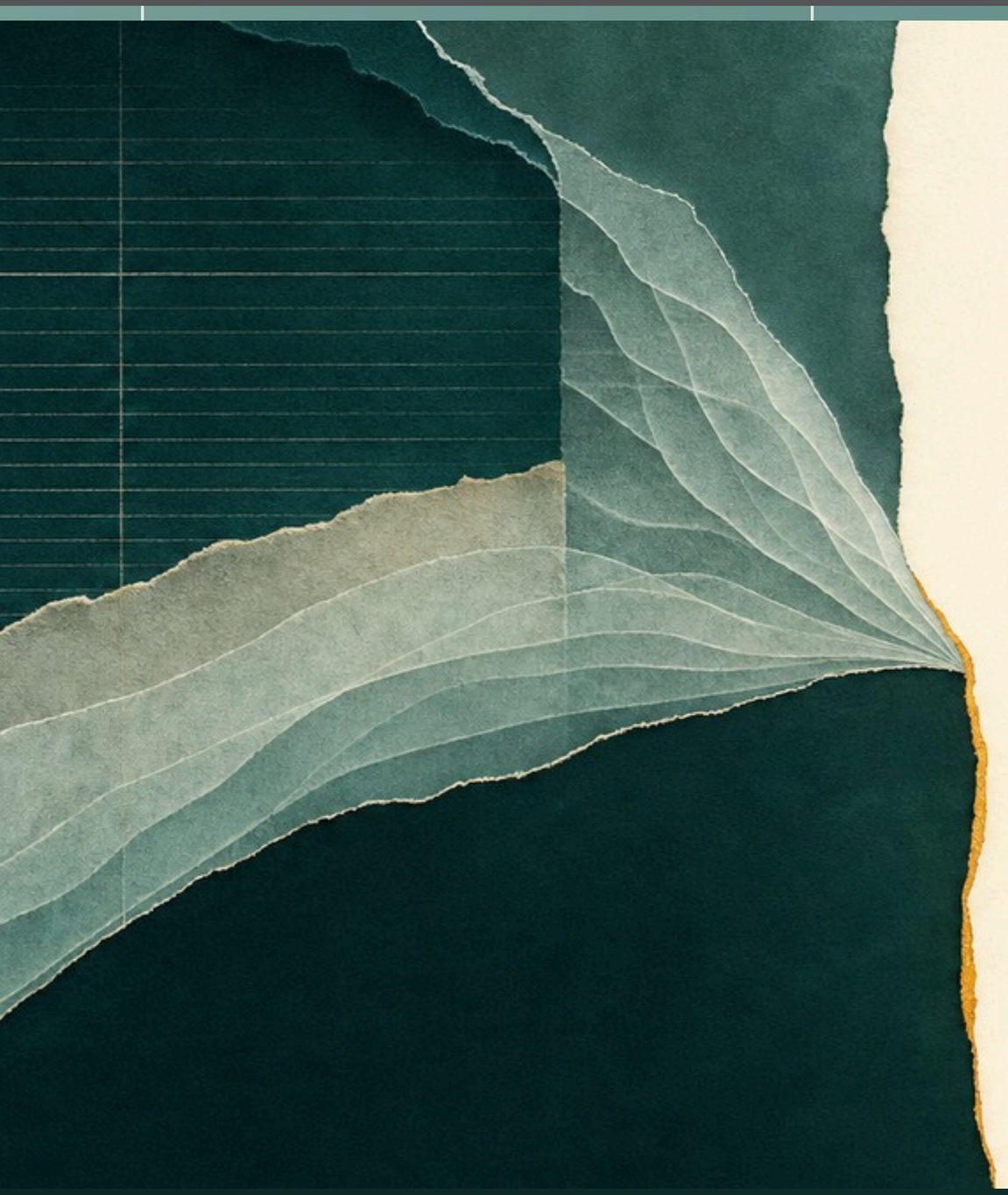
when goods covered by the recovery asset return

Restore recoverable goods to Inventory and remove the related recovery asset. Do not reduce COGS again for the same expected return.

Periodic

at period-end after a return

Include returned goods still held in ending inventory and remove the related recovery asset.



Cutoff reconciliation

Year-end inventory reconciliation

What should be recorded at year-end?

Cutoff means recording transactions in the correct accounting period. First, determine whether control transferred by year-end. Then establish what belongs in the accounts.

Year-end question	Required accounting
Did the company acquire control of goods purchased on credit?	Include goods still owned in Inventory and the unpaid purchase in Accounts Payable.
Did the company transfer control of goods sold on credit?	Record Sales Revenue and the unpaid amount in Accounts Receivable. Transfer the goods' cost from Inventory to COGS.
Are goods sent to a customer still controlled by the company?	Keep their cost in Inventory. Recognize revenue and COGS when control transfers.

Compare that required accounting with the recorded transactions. Correct any differences before determining whether an inventory shortage remains.

Sound Decision: December 31 inventory review

WALKTHROUGH

What inventory should Sound Decision report at December 31, and what changes are needed to its records?

All ukuleles cost $78 each. Perpetual Inventory contains 62 ukuleles, costing $4,836. Employees verify 57 ukuleles on the premises.

Which shipments belong in December 31 inventory?

WALKTHROUGH

Use the shipping terms and dates to determine ownership, then compare the required accounting with the records.

Shipment	Facts at December 31	Year-end treatment
Incoming: 6 ukuleles	FOB shipping point; shipped December 29, arrived January 3	Owned at year-end. Include in inventory and record the unrecorded credit purchase.
Outgoing: 5 ukuleles	FOB destination; shipped December 30, arrived January 4	Still owned at year-end. Include in inventory and reverse the recorded credit sale and COGS.
Incoming: 8 ukuleles	FOB destination; shipped December 28, arrived January 2	Not yet owned. Exclude from inventory; no purchase was recorded, so no correction is needed.
Outgoing: 9 ukuleles	FOB shipping point; shipped December 31, arrived January 3	Control transferred to the customer. Exclude from inventory; the sale and COGS were recorded correctly.

All shipping terms determine control as stated. Selling price is $140 per ukulele. No payment or unconditional payment right exists before destination delivery. No additional freight applies. All other transaction entries are correct, and all goods held elsewhere are listed.

First establish the goods Sound Decision owns

WALKTHROUGH

The count includes 4 ukuleles owned by a supplier. Sound Decision also owns 7 ukuleles held by another dealer. Both are consignment arrangements, so ownership stays with the consignor.

The ledger already excludes the supplier's goods and includes Sound Decision's goods at the other dealer. These consignment items require adjustments to the physical count, not journal entries.

Owned-inventory reconciliation	Ukuleles
Counted on premises	57
Less supplier-owned consignment	(4)
Owned on premises	53
Add own goods at another dealer	7
Add incoming shipping-point goods	6
Add outgoing destination goods	5
Total owned	**71**

Required inventory: 71 ukuleles × $78 per ukulele = **$5,538**.

Record the incoming shipping-point purchase

WALKTHROUGH

6 ukuleles × $78 per ukulele = **$468**.

The goods belonged to Sound Decision when the supplier delivered them to the carrier before year-end.

Account	Debit	Credit
Inventory	$468	
Accounts Payable		$468

The omitted purchase affected both the asset and the supplier obligation.

Reverse the outgoing destination sale

WALKTHROUGH

On the shipment review, we determined that Sound Decision must reverse the recorded sale of 5 ukuleles. They shipped December 30 under FOB destination terms and reached the customer January 4, so Sound Decision still owned them at year-end. Now record that correction.

Reverse recorded revenue: 5 ukuleles × $140 per ukulele = $700.

Account	Debit	Credit
Sales Revenue	$700	
Accounts Receivable		$700

Restore inventory cost: 5 ukuleles × $78 per ukulele = $390.

Account	Debit	Credit
Inventory	$390	
Cost of Goods Sold		$390

The purchase correction also records the supplier payable. Reversing the sale corrects revenue, the customer receivable, and COGS. Changing Inventory alone would leave those accounts incorrect.

Reconcile Inventory to the goods owned

WALKTHROUGH

Post the purchase and sale corrections already identified, then compare the corrected balance with the owned-inventory reconciliation.

Inventory

Recorded balance	**$4,836**	
Omitted purchase	**$468**	
Restored inventory from reversed sale	**$390**	
		$156 Shortage
EB	**$5,538**	

Before the shortage adjustment:

$4,836 + $468 + $390 = $5,694.

Required inventory:

71 owned ukuleles × $78 per ukulele = $5,538.

Shortage:

$5,694 recorded cost − $5,538 owned cost = $156.

Account	Debit	Credit
Inventory Shrinkage Expense	$156	
Inventory		$156

Determine ownership and prepare year-end corrections

GUIDED WALKTHROUGH

For each shipment, determine who owns the goods at December 31 and prepare any correcting entries.

Sound Decision uses perpetual records. Ukuleles cost $78 each and sell for $140 each.

Shipment at December 31	Accounting already recorded
7 incoming ukuleles, FOB destination; arrive January 2	Inventory and Accounts Payable recorded before delivery.
8 outgoing ukuleles, FOB shipping point; shipped December 31	Credit sale and inventory-cost entry both omitted.
4 incoming ukuleles, FOB shipping point; shipped December 29	Purchase correctly recorded.

The shipping terms determine control. No additional freight applies. The destination purchase creates no payable before delivery. Sales are final.

Pause here if you'd like to try the problem. Then continue for the worked solution.

Reverse the purchase recorded before destination delivery

WORKED SOLUTION

The 7 incoming ukuleles still belong to the supplier.

7 ukuleles × $78 per ukulele = **$546**.

Account	Debit	Credit
Accounts Payable	$546	
Inventory		$546

Sound Decision recorded the purchase before receiving the goods. Under FOB destination terms, it does not own them until January 2, so reverse the Inventory and Accounts Payable entry at December 31.

For the 4 incoming shipping-point ukuleles, control already transferred and the purchase was correctly recorded. Keep those goods in Inventory without posting another purchase.

Record the omitted shipping-point sale

WORKED SOLUTION

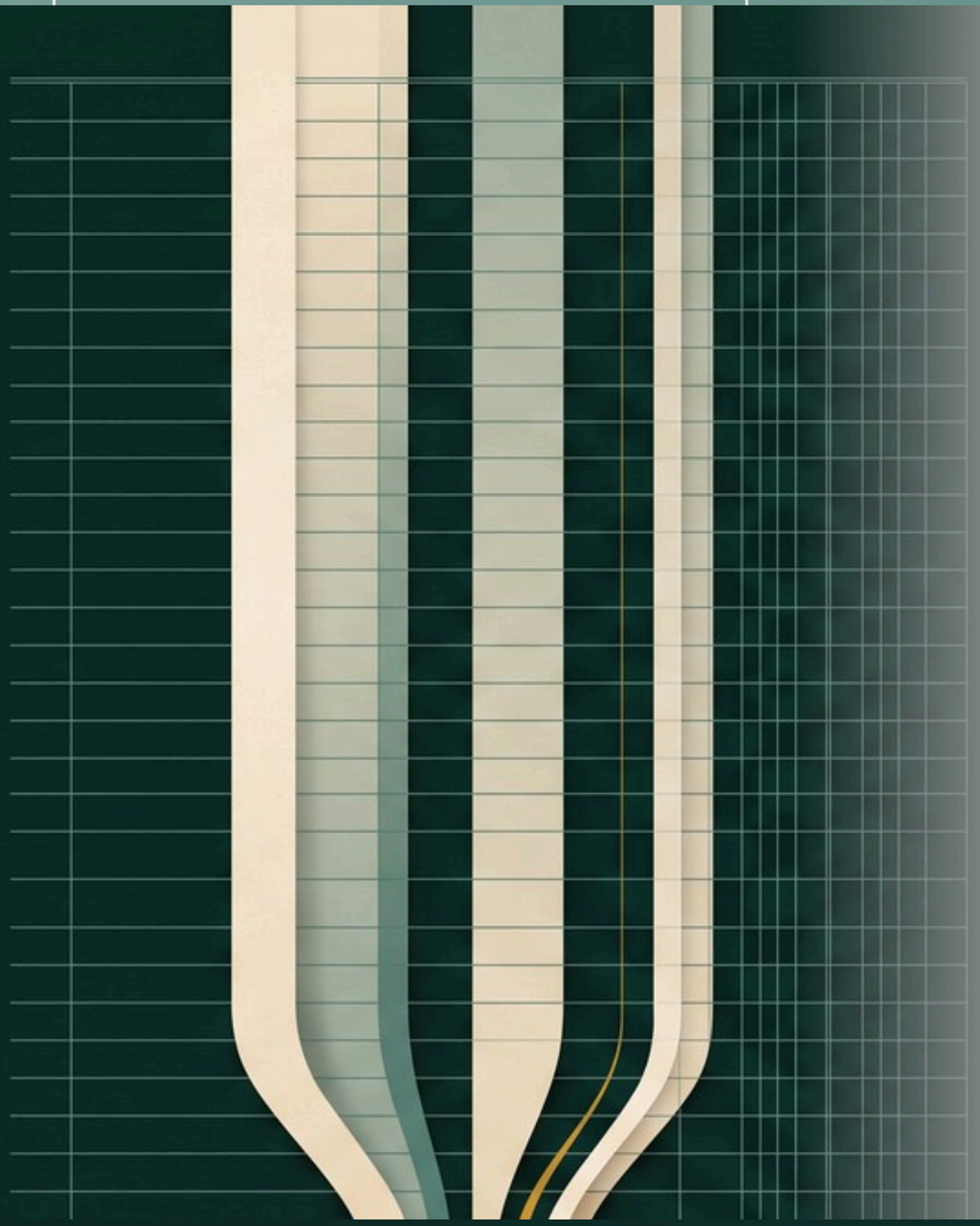
Sound Decision shipped 8 ukuleles on December 31 under FOB shipping-point terms but recorded neither the credit sale nor COGS. Control transferred to the customer when the goods were delivered to the carrier. Record both entries at December 31.

Record the credit sale at selling price: 8 ukuleles × $140 per ukulele = $1,120.

Account	Debit	Credit
Accounts Receivable	$1,120	
Sales Revenue		$1,120

Transfer the sold goods' cost from Inventory to COGS: 8 ukuleles × $78 per ukulele = $624.

Account	Debit	Credit
Cost of Goods Sold	$624	
Inventory		$624



Next meeting

Next class: compare inventory cost flows

Tuesday, November 3, 2026

Upcoming deadline

Midpoint company analysis: Friday, October 30, at 11:59 PM.