

Problem 8-12

2021 Income statement

Sales	\$6,255
Cost of goods sold	5,190

2021 and 2020 balance sheets

	2021	2020
Current assets:		
Accounts receivable, net	\$703	\$583
Inventories	880	808

Bad debt expense for 2021 = \$8

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Problem 8-12 (continued)

Accounts Receivable (in part)

The allowance for uncollectible accounts was \$10 and \$7 at December 31, 2021 and 2020, respectively. All sales are on credit.

Inventories

Inventories are valued at the lower of cost or market. The cost of the majority of inventories is measured using the last in, first out (LIFO) method. Other inventories are measured principally at average cost and consist mostly of foreign inventories and certain raw materials. If the entire inventory had been valued on an average cost basis, inventory would have been higher by \$480 and \$350 at the end of 2021 and 2020 respectively.

During 2021, 2020 and 2019, liquidation of LIFO layers generated income of \$6, \$7 and \$25 respectively.

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Problem 8-12 (continued)

Part 1: Determine the amount of accounts receivable that were written off in 2021.

Allowance for uncollectible accounts

Balance, beginning of year	\$ 7
Add: Bad debt expense	8
Deduct: Balance, end of year	(10)

Accounts receivable written off \$ 5

Part 2: Calculate the amount of cash collected from customers in 2021

Accounts receivable

Balance, beginning of year (\$583 + \$7)	\$ 590
Add: Credit sales	6,255
Deduct: Write-offs	(5)
Deduct: Balance, end of year (\$703 + \$10)	(713)

Cash collections \$6,127

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Problem 8-12 (continued)

Part 3: Calculate cost of goods sold for 2021 under the average cost method

Cost of goods sold as given	\$5,190
Add: Increase in beginning inventory per note	350
Deduct: Increase in ending inventory, per note	(480)
Cost of goods sold under average cost	<u>\$5,060</u>

Part 4: Calculate the following ratios for 2021:

- a) Receivables turnover = Net sales ÷ Average Accounts Receivable
Receivables turnover = $\$6,255 \div (\$703 + 583)/2 = 9.73$ times
- b) Inventory turnover = Cost of goods sold ÷ Average inventory
Inventory turnover = $\$5,190 \div (\$880 + \$808)/2 = 6.15$ times
- c) Gross profit ratio = Gross profit ÷ Sales
Gross profit ratio = $(\$6,255 - \$5,190) \div \$6,255 = 17\%$

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Problem 8-17 (continued)

Part 5: Explain briefly what caused the income generated by the liquidation of the LIFO layers. Assume an income tax rate of 25%, what was the effect of the liquidation of the LIFO layers on the cost of goods sold in 2021?

A liquidation of a LIFO inventory layer occurs when there is a decline in the inventory during a period. In times of increasing inventory costs, a decline in inventory and resulting liquidation of LIFO inventory layers carried at lower costs prevailing in prior year's, results in those lower costs being matched with current selling prices. The "income" generated by this liquidation is known as LIFO liquidation profit.

The liquidation caused 2021 cost of goods sold to be lower by \$8 million [$\$6 \text{ million} \div (1 - .25)$].

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