

**Financial Statement Analysis & Valuation, 5<sup>th</sup> Edition**  
by Easton, McAnally, Sommers, & Zhang

**Practice Quiz Solutions**

**Module 6 –Asset Recognition and Operating Assets**

1. Assume Abercrombie and Fitch (ANF) and TJ Maxx (TJX) report the following information in their respective January 2016 10-K reports.

(\$ millions)	Abercrombie & Fitch			TJ Maxx		
	Sales	Cost of Goods Sold	Inventories	Sales	Cost of Goods Sold	Inventories
2015	\$2,021	\$680	\$211	\$14,913	\$11,398	\$2,352
2016	2,785	933	363	16,058	12,295	2,366

Compute the 2016 inventory turnover for each of these two retailers.

- a. ANF: 3.25      TJX: 5.21  
b. ANF: 7.67      TJX: 6.79  
c. ANF: 2.98      TJX: 1.31  
d. ANF: 2.57      TJX: 5.19

Answer: a

Inventory Turnover rates for 2016	
ANF.....	$\$933 / [(\$211 + \$363) / 2] = 3.25$
TJX.....	$\$12,295 / [(\$2,352 + \$2,366) / 2] = 5.21$

2. Assume Intel Corporation (INTC) and Texas Instruments (TXN) report the following information.

(\$ millions)	Intel Corp		Texas Instruments	
	Sales	PPE, net	Sales	PPE, net
2015	\$34,209	\$15,768	\$12,580	\$3,918
2016	38,826	17,111	13,392	3,899

Compute the 2016 PPE turnover for both companies.

- a. INTC: 2.27      TXN: 3.44  
b. INTC: 2.17      TXN: 3.21  
c. INTC: 2.50      TXN: 3.50  
d. INTC: 2.36      TXN: 3.43

Answer: d

PPE turnover rates for 2016	
Texas Instruments.....	$\$13,392 / [(\$3,918 + \$3,899) / 2] = 3.43$
Intel Corp. ....	$\$38,826 / [(\$15,768 + \$17,111) / 2] = 2.36$

3. Assume General Electric Company reports the following footnote in its 10-K report.

December 31 (In millions)	2016	2015
Raw materials and work in process	\$ 5,527	\$ 5,042
Finished goods	5,152	4,806
Unbilled shipments	<u>333</u>	<u>402</u>
	11,012	10,250
Less revaluation to LIFO	<u>(697)</u>	<u>(661)</u>
	<u>\$10,315</u>	<u>\$ 9,589</u>

The company reports its inventories using the LIFO inventory costing method.

Assume GE has a 35% income tax rate. As of the 2016 year-end, how much has GE saved in taxes by choosing LIFO over FIFO method for costing inventory?

- a. \$6,705 million
- b. \$ 475 million
- c. \$3,610 million
- d. \$ 244 million

Answer: d

Pretax income has been reduced by \$697 million. Assuming a 35% tax rate, taxes have been reduced by  $\$697 \times 0.35 = \$244$  million.

4. Assume the following inventory footnote was obtained from the Deere & Company's 2016 10-K (\$ millions).

**Inventories** Most inventories owned by Deere & Company and its United States equipment subsidiaries are valued at cost, on the "last-in, first-out" (LIFO) basis. Remaining inventories are generally valued at the lower of cost, on the "first-in, first-out" (FIFO) basis, or market. The value of gross inventories on the LIFO basis represented 61 percent of worldwide gross inventories at FIFO value on October 31, 2016 and 2015, respectively. If all inventories had been valued on a FIFO basis, estimated inventories by major classification at October 31 in millions of dollars would have been as follows:

	2016	2015
Raw materials and supplies	\$ 716	\$ 589
Work-in-process	425	408
Finished machine and parts	<u>2,126</u>	<u>2,004</u>
Total FIFO value	3,267	3,001
Less adjustment to LIFO value	<u>1,132</u>	<u>1,002</u>
Inventories	<u>\$2,135</u>	<u>\$1,999</u>

We notice that not all of Deere's inventories are reported using the same inventory costing method (companies can use different inventory costing methods for different inventory pools).

What effect has the use of LIFO inventory costing had on Deere's tax liability for 2016 only (assume a 35% income tax rate)?

- a. \$396 million tax savings
- b. \$45.5 million tax savings
- c. \$130 million tax savings
- d. \$85 million tax savings

Answer: b

For 2016, the change in the LIFO reserve is an increase of \$130 million (\$1,132 million - \$1,002 million). This reduces pretax income by that amount (as compared to the taxable income that Deere would have reported had it used the FIFO system). Assuming a tax rate of 35%, Deere saved taxes of \$130 million  $\times$  0.35 = \$45.5 million in 2016 because it used the LIFO costing method.

5. Assume the following property and equipment footnote was obtained from the Deere & Company's 2016 10-K.

**Property and Depreciation** A summary of property and equipment at October 31 follows:

(\$ millions)	Average Useful Lives (Years)	2016	2015
<b>Equipment Operations</b>			
Land		\$ 79	\$ 75
Buildings and building equipment	25	1,490	1,419
Machinery and equipment	10	2,961	2,870
Dies, patterns, tools, etc	7	1,039	987
All other	5	589	571
Construction in progress		<u>232</u>	<u>156</u>
Total at cost		6,390	6,078
Less accumulated depreciation		<u>4,113</u>	<u>3,966</u>
Total		<u>\$2,277</u>	<u>\$2,112</u>

During 2016, the company reported \$636.5 million of depreciation expense (this expense also includes amortization expense relating to computer software that is included with property and equipment).

Estimate the percent used up of Deere's depreciable assets.

- a. 68%
- b. 64%
- c. 50%
- d. 36%

Answer: a

Percent used up = Accumulated depreciation / Asset cost  
= \$4,113 million / (\$6,390 - \$79 - \$232) million = 68%

(Note: We eliminate land and construction in progress from the computation because land is never depreciated and construction in progress represents assets that are not in service yet and are, consequently, not depreciated).

Assuming that assets are replaced evenly as they are used up, we would expect assets to be 50% depreciated, on average. Deere's 68% is higher than this average. The implication is that Deere will require higher capital expenditures in the near future to replace aging assets.

6. The following property and equipment section was obtained from a recent Abbott Laboratories 10-K.

Property and equipment, at cost (\$ thousands)	
Land.....	\$ 370,949
Buildings.....	2,655,356
Equipment.....	8,813,517
Construction in progress.....	<u>920,599</u>
	12,760,421
Less: accumulated depreciation and amortization.....	<u>6,757,280</u>
Net property and equipment.....	<u>\$ 6,003,141</u>

The company also provides the following disclosure relating to the useful lives of its depreciable assets.

**Property and Equipment** Depreciation and amortization are provided on a straight-line basis over the estimated useful lives of the assets. The following table shows estimated useful lives of property and equipment.

Classification	Estimated Useful Lives
Buildings.....	10 to 50 years (average 27 years)
Equipment.....	3 to 20 years (average 11 years)

During the year, the company reported \$868,808 (\$ 000s) for depreciation expense.

Compute the estimated useful life of Abbott Laboratories' depreciable assets.

- a. 19.0 years
- b. 14.7 years
- c. 13.2 years
- d. 6.9 years

Answer: c

$$\begin{aligned}
 \text{Average useful life} &= \text{Cost} / \text{Depreciation expense} \\
 &= (\$12,760,421 - \$370,949 - \$920,599) / \$868,808 \\
 &= 13.2 \text{ years}
 \end{aligned}$$

(Note: We eliminate land and construction in progress from the computation because land is never depreciated and construction in progress represents assets that are not in service yet and are consequently not depreciated).

The footnote indicates that buildings have estimated useful lives ranging from 10-50 years (27-year average) and Equipment from 3-20 years (11-year average).

7. Assume that Fey Company reports the following initial balance and subsequent purchase of inventory.

Inventory balance at beginning of year	1,200 units @ \$60 each	\$ 72,000
Inventory purchased during the year	<u>1,800 units @ \$90 each</u>	<u>162,000</u>
Cost of goods available for sale during the year	3,000 units	\$234,000

Assume that 1,900 units are sold during the year.

What amount is reported for inventory on the year-end balance sheet using the FIFO method?

- a. \$ 99,000
- b. \$ 66,000
- c. \$135,000
- d. \$168,000

Answer: c

3,000 units available in inventory – 1,900 inventory sold = 1,100 units remaining in inventory.  
 1,100 x \$90 = \$99,000 FIFO ending inventory

8. Assume that Fey Company reports the following initial balance and subsequent purchase of inventory.

Inventory balance at beginning of year	1,200 units @ \$60 each	\$ 72,000
Inventory purchased during the year	<u>1,800 units @ \$90 each</u>	<u>162,000</u>
Cost of goods available for sale during the year	3,000 units	\$234,000

Assume that 1,900 units are sold during the year.

What amount is reported for cost of goods sold using the LIFO method?

- a. \$ 99,000
- b. \$ 66,000
- c. \$135,000
- d. \$168,000

Answer: d

$(1,800 \times \$90) + (100 \times \$60) = \$168,000$  LIFO cost of goods sold

9. Howell Corporation purchased a new machine costing \$27,600 on January 1, 2017. The machine is expected to have a \$1,800 salvage value at the end of its useful life of six years.

What is the depreciation expense that Howell Corporation records for 2017 using the straight line method?

- a. \$4,900
- b. \$1,800
- c. \$4,300
- d. \$4,600

Answer: c

$$(\$27,600 - \$1,800) / 6 \text{ years} = \$4,300$$

10. Mullen Company purchased a new machine costing \$55,200 on January 1, 2017. The machine is expected to have a \$3,600 salvage value at the end of its useful life of six years.

What is the depreciation expense that Mullen Company records for 2017 using the double-declining-balance method?

- a. \$ 8,600
- b. \$18,400
- c. \$17,200
- d. \$ 9,200

Answer: b

$$\$55,200 \times 2 / 6 \text{ years} = \$18,400$$