

**Problem 7-13**

**Goal:** Determine depreciation using MACRS depreciation compared to straight line

**Given:** Equipment \$50,000 **Original Cost**  
 MACRS recovery period 5 **n, years**  
 straight line recovery period 5 **n, years**

**Approach:** Determine straight line depreciation amount/year  
 Determine MACRS % factor for first year 20.00% Table 7-9, 5-year property  
 Determine MACRS % factor for second year 32.00% Table 7-9, 5-year property  
 Determine MACRS % factor for fifth year 11.52% Table 7-9, 5-year property

**Calculations:**

(1) Straight line method **\$10,000** **annual depreciation** = \$50,000 investment / 5 year life  
 deducted in 2 years \$20,000  
**40%** **Percent of original** = \$20,000/\$50,000 investment

(2) MACRS deduction **\$5,760** **depreciation** in fifth year = \$50,000 investment \* 0.1152 factor

**Answer** in 2 years **52%** **Percent of original** = 20% + 32% investment  
**Percent of original** = (\$10,000+\$16,000)/\$50,000 investment

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**Alternatively: construct MACRS depreciation table**

year	%	depreciation	cumulative % depreciated		book value at end of year	BV <sub>st.line</sub>
1	20.00%	\$10,000	20.0%	\$40,000	20.0%	\$40,000
2	32.00%	\$16,000	52.0%	\$24,000	40.0%	\$30,000
3	19.20%	\$9,600	71.2%	\$14,400	60.0%	\$20,000
4	11.52%	\$5,760	82.72%	\$8,640	80.0%	\$10,000
5	11.52%	\$5,760	94.24%	\$2,880	100.0%	\$0
6	5.76%	\$2,880	100.0%	\$0	note 1/2 year MACRS convention	