CHAPTER 10

PROBLEMS: SET B

P10-1B Russo Company was organized on January 1. During the first year of operations, the following plant asset expenditures and receipts were recorded in random order.

Debit
1. Accrued real estate taxes paid at time of purchase of real estate $  5,000
2. Real estate taxes on land paid for the current year 7,500
3. Full payment to building contractor 490,000
4. Excavation costs for new building 19,000
5. Cost of real estate purchased as a plant site (land $75,000 and building $25,000) 100,000
6. Cost of parking lots and driveways 18,000
7. Architect’s fees on building plans 9,000
8. Installation cost of fences around property 6,000
9. Cost of demolishing building to make land suitable for construction of new building 27,000

Credit
10. Proceeds from salvage of demolished building $   3,500

Totals
Land $128,500
Buildings $518,000

Instructions
Analyze the foregoing transactions using the following column headings. Insert the number of each transaction in the Item column, and then insert the amounts in the other appropriate columns. For amounts entered in the Other Accounts column, also indicate the account title.

<table>
<thead>
<tr>
<th>Item</th>
<th>Land</th>
<th>Buildings</th>
<th>Other Accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
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<td></td>
<td></td>
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<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4.</td>
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<td></td>
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<tr>
<td>5.</td>
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<tr>
<td>6.</td>
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<td>7.</td>
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<td>8.</td>
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<tr>
<td>9.</td>
<td></td>
<td></td>
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<tr>
<td>10.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

P10-2B In recent years, Darnell Company purchased three machines. Because of heavy turnover in the accounting department, a different accountant was in charge of selecting the depreciation method for each machine, and each selected a different method. Information concerning the machines is summarized below.

<table>
<thead>
<tr>
<th>Machine</th>
<th>Acquired</th>
<th>Cost</th>
<th>Salvage Value</th>
<th>Useful Life in Years</th>
<th>Depreciation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/1/12</td>
<td>$105,000</td>
<td>$ 5,000</td>
<td>10</td>
<td>Straight-line</td>
</tr>
<tr>
<td>2</td>
<td>1/1/13</td>
<td>180,000</td>
<td>10,000</td>
<td>8</td>
<td>Declining-balance</td>
</tr>
<tr>
<td>3</td>
<td>11/1/15</td>
<td>125,000</td>
<td>15,000</td>
<td>6</td>
<td>Units-of-activity</td>
</tr>
</tbody>
</table>

For the declining-balance method, the company uses the double-declining rate. For the units-of-activity method, total machine hours are expected to be 25,000. Actual hours of use in the first 3 years were 2015, 2,000; 2016, 4,500; and 2017, 5,500.

Instructions
(a) Compute the amount of accumulated depreciation on each machine at December 31, 2015.
(b) If Machine 2 had been purchased on May 1 instead of January 1, what would be the depreciation expense for this machine in (1) 2013 and (2) 2014?

P10-3B On January 1, 2015, Bourgeois Company purchased the following two machines for use in its production process.

Machine A: The cash price of this machine was $58,000. Related expenditures included: sales tax $2,750, shipping costs $100, insurance during shipping $75, installation and testing costs $75, and $90 of oil and lubricants to be used with the machinery during its first year of operation. Bourgeois estimates that the useful life of the machine is 4 years with a $5,000 salvage value remaining at the end of that time period.

Machine B: The recorded cost of this machine was $120,000. Bourgeois estimates that the useful life of the machine is 4 years with a $10,000 salvage value remaining at the end of that time period.
Instructions
(a) Prepare the following for Machine A.
(1) The journal entry to record its purchase on January 1, 2015.
(2) The journal entry to record annual depreciation at December 31, 2015, assuming the straight-line method of depreciation is used.
(b) Calculate the amount of depreciation expense that Bourgeois should record for Machine B each year of its useful life under the following assumption.
(1) Bourgeois uses the straight-line method of depreciation.
(2) Bourgeois uses the declining-balance method. The rate used is twice the straight-line rate.
(3) Bourgeois uses the units-of-activity method and estimates the useful life of the machine is 25,000 units. Actual usage is as follows: 2015, 5,500 units; 2016, 7,000 units; 2017, 8,000 units; 2018, 4,500 units.
(c) Which method used to calculate depreciation on Machine B reports the lowest amount of depreciation expense in year 1 (2015)? The lowest amount in year 4 (2018)? The lowest total amount over the 4-year period?

P10-4B At the beginning of 2013, Sullivan Company acquired equipment costing $300,000. It was estimated that this equipment would have a useful life of 6 years and a salvage value of $30,000 at that time. The straight-line method of depreciation was considered the most appropriate to use with this type of equipment. Depreciation is to be recorded at the end of each year.

During 2015 (the third year of the equipment's life), the company's engineers reconsidered their expectations and estimated that the equipment's useful life would probably be 7 years (in total) instead of 6 years. The estimated salvage value was not changed at that time. However, during 2018, the estimated salvage value was reduced to $5,000.

Instructions
Indicate how much depreciation expense should be recorded for this equipment each year by completing the following table.

<table>
<thead>
<tr>
<th>Year</th>
<th>Depreciation Expense</th>
<th>Accumulated Depreciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td></td>
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<tr>
<td>2015</td>
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<td>2016</td>
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<tr>
<td>2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2019 depreciation expense, $48,500

P10-5B At December 31, 2015, Torrealba Company reported the following as plant assets.

Land $2,000,000
Buildings $20,000,000
Less: Accumulated depreciation—buildings 8,000,000 12,000,000
Equipment 30,000,000
Less: Accumulated depreciation—equipment 4,000,000 26,000,000
Total plant assets $38,660,000

During 2016, the following selected cash transactions occurred.
April 1 Purchased land for $1,200,000.
May 1 Sold equipment that cost $450,000 when purchased on January 1, 2012. The equipment was sold for $260,000.
June 1 Sold land purchased on June 1, 2006, for $1,000,000. The land cost $340,000.
July 1 Purchased equipment for $1,500,000.
Dec. 31 Retired equipment that cost $300,000 when purchased on December 31, 2006. No salvage value was received.

Instructions
(a) Journalize the above transactions. Torrealba uses straight-line depreciation for buildings and equipment. The buildings are estimated to have a 50-year useful life and no salvage value. The equipment is estimated to have a 10-year useful life and no salvage value. Update depreciation on assets disposed of at the time of sale or retirement.
(b) Record adjusting entries for depreciation for 2016.
(c) Prepare the plant assets section of Torrealba's balance sheet at December 31, 2016.
**P10-6B** Dickey’s has equipment that cost $45,000 and that has been depreciated $26,000.

*Instructions*

Record the disposal under the following assumptions.

(a) It was scrapped as having no value.
(b) It was sold for $29,000.
(c) It was sold for $10,000.

**P10-7B** The intangible assets section of Willingham Company at December 31, 2015, is presented below.

| Patents ($100,000 cost less $10,000 amortization) | $ 90,000 |
| Copyrights ($60,000 cost less $24,000 amortization) | 36,000 |
| **Total**  | **$126,000** |

The patent was acquired in January 2015 and has a useful life of 10 years. The copyright was acquired in January 2012 and also has a useful life of 10 years. The following cash transactions may have affected intangible assets during 2016.

- Jan. 2  Paid $36,000 legal costs to successfully defend the patent against infringement by another company.
- Jan.–June  Developed a new product, incurring $230,000 in research and development costs. A patent was granted for the product on July 1. Its useful life is equal to its legal life.
- Sept. 1  Paid $125,000 to an X-Games star to appear in commercials advertising the company's products. The commercials will air in September and October.
- Oct. 1  Acquired a copyright for $300,000. The copyright has a useful life of 50 years.

*Instructions*

(a) Prepare journal entries to record the transactions above.
(b) Prepare journal entries to record the 2016 amortization expense for intangible assets.
(c) Prepare the intangible assets section of the balance sheet at December 31, 2016.
(d) Prepare the note to the financials on Willingham’s intangibles as of December 31, 2016.

**P10-8B** Due to rapid turnover in the accounting department, a number of transactions involving intangible assets were improperly recorded by Farnsworth Company in 2015.

1. Farnsworth developed a new manufacturing process, incurring research and development costs of $110,000. The company also purchased a patent for $50,000. In early January, Farnsworth capitalized $160,000 as the cost of the patents. Patent amortization expense of $16,000 was recorded based on a 10-year useful life.

2. On July 1, 2015, Farnsworth purchased a small company and as a result acquired goodwill of $200,000. Farnsworth recorded a half-year’s amortization in 2015, based on a 50-year life ($2,000 amortization). The goodwill has an indefinite life.

*Instructions*

Prepare all journal entries necessary to correct any errors made during 2015. Assume the books have not yet been closed for 2015.

**P10-9B** Auer Corporation and Marte Corporation, two corporations of roughly the same size, are both involved in the manufacture of canoes and sea kayaks. Each company depreciates its plant assets using the straight-line approach. An investigation of their financial statements reveals the following information.

<table>
<thead>
<tr>
<th></th>
<th>Auer Corp.</th>
<th>Marte Corp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net income</td>
<td>$ 300,000</td>
<td>$ 325,000</td>
</tr>
<tr>
<td>Sales revenue</td>
<td>1,050,000</td>
<td>945,000</td>
</tr>
<tr>
<td>Average total assets</td>
<td>1,000,000</td>
<td>1,050,000</td>
</tr>
<tr>
<td>Average plant assets</td>
<td>750,000</td>
<td>770,000</td>
</tr>
</tbody>
</table>

*Instructions*

(a) For each company, calculate the asset turnover.
(b) Based on your calculations in part (a), comment on the relative effectiveness of the two companies in using their assets to generate sales and produce net income.