Quick Questions On Revising Depreciation, Ordinary Repairs, And Betterments

The IMN Company had the following independent transaction related to a four-year-old machine costing $46,000. The machine originally had a useful life of eight years and residual value of $6,000. Assuming the straight-line depreciation, answer the following:

A. The machine has been wearing very well and is expected to last an additional two years and has $2,000 of additional residual value. Depreciation per year would be:

\[
D = \frac{C - RV}{n} = \frac{46,000 - 6,000}{8} = \frac{40,000}{8} = 5,000
\]

Current Age = 4 years
Cost = $46,000
n = 8 years
RV = $6,000

A.D. after four years is (4)(5,000) = $20,000

RV' = $8,000
Book Value = C - AD = 46,000 - $20,000 = $26,000

\[n' = 4 + 2 = 6\]

New depreciation per year = \[
\frac{BV - RV'}{n'} = \frac{26,000 - 8,000}{6} = 3,000
\]

B. The Company made a capital investment in the machine of $10,000 which will add four years to its useful life. Make the entry to record the investment and calculate next year's depreciation.

<table>
<thead>
<tr>
<th>DATE</th>
<th>ACCOUNT TITLE AND DESCRIPTION</th>
<th>PR</th>
<th>DEBIT</th>
<th>CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Accumulated Depreciation</td>
<td></td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td></td>
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<td>10,000</td>
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</tbody>
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Current Age = 4 years
AD = (4)(5,000) = $20,000
Cost = $46,000
n = 4 + 4 = 8 years
RV = $6,000
A.D' = $20,000 - $10,000
= $10,000

D' = \[
\frac{BV - RV}{n}
\]

Book Value = Cost - Accumulated Depreciation
= 46,000 - 10,000 = $36,000

\[D' = \frac{36,000 - 6,000}{8} = 3,750\]

C. Assume that question B had not extended the useful life but had made the machine more efficient. Make the entry to record the investment and calculate next year's depreciation.

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<th>PR</th>
<th>DEBIT</th>
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<tbody>
<tr>
<td>C</td>
<td>Machine</td>
<td></td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td></td>
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<td>10,000</td>
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Cost = $46,000 + $10,000 = $56,000
Accumulated Depreciation = $20,000
Book Value = C - AD = 56,000 - $20,000 = $36,000
RV = $6,000

D' = \[
\frac{BV - RV}{n}
\]

= \[
\frac{36,000 - 6,000}{4}
\]

= $7,500