1. The only item that adds to the building’s store of benefits are the major improvements to the electrical system. All the rest must be expensed. Answer $54,000.

2. First year depreciation = $180,000 x (2/10) = $36,000
Net book value at end of first year = $180,000 - 36,000 = $144,000
Second year depreciation = $144,000 x (2/10) = $28,800

3. Both are part of getting the machine ready for its proposed use so both should be capitalized. Answer (d)

4. The portfolio has been held intact for at least 3 months so it would not appear to be actively traded. It must be an available for sale portfolio with gains and losses going to a valuation account in the balance sheet. The portfolio would have been written down to $77,500 at the end of the first quarter and must now be written down a further $500. Answer (e).

5. This is a long-term work in progress so eligible for capitalizing interest. The amount to be capitalized is the average investment multiplied by the company’s borrowing rate subject to an overall limit of the interest expense for the year. There was $500,000 outstanding for the year invested the previous year and an additional average $1,000,000 this year. Total potential capitalization at 12 percent interest is $180,000. Limit is $102,000.

6. The purchase cost of the land, the cost of razing the old building, and the title and legal fees to purchase the land are all part of the getting the land ready. The only building costs here are the architect’s fees and the construction cost, giving a total of $1,735,000.

7. We did not grade this because so many did not know what receivable turnover was. The answer we were looking for was 50/26.5. Closing accounts receivable gross is $28M (or 18 + 50 - 40); closing allowance for doubtful accounts is $1.5M (or 1 + 2% of $50M - 0.5M) for a net of $26.5M in receivables.

8. If you time-line the payments it is apparent that this is an annuity due i.e., payable in advance. The present value (the value at which all monetary instruments are entered) is therefore $10,000 plus the PV of the remaining 9 payments at 8 percent or $10,000 plus 10,000 x 6.247 for a total of $72,470. The amortization table follows:

<table>
<thead>
<tr>
<th>Opening book - cash payment + interest</th>
<th>= Closing book @ December 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>72,470</td>
<td>- 10,000</td>
</tr>
<tr>
<td></td>
<td>+ 62,470 x .08 = 67,468</td>
</tr>
</tbody>
</table>

Question asked for balance on December 31st and assuming that the payment was made when due the answer is $57,468.

9. No bargain purchase option; asset is being held for less than 75% of its life; PV of lease payments is 84% of fair value only. Hence this is a capital lease. No liability.
10. a. Under the periodic method compute the closing inventory ie 100 @ $24 plus 150 @ $23 or $2,400 plus 3,450 = $5,850.

b. Under the perpetual method compute the cost of sales when the sales are made. Using the assumption that all 450 items were sold on January 20th, 250 must have come from the $23 layer and the remaining 200 from the $22 layer for a total cost of sales of $10,150. The good available for sale totaled $15,700; hence closing inventory must be $5,550.

11. An opportunity to demonstrate that you know how to apply bookkeeping to annual reports. The official answers (not necessarily the correct answers!) were:

   a. Payments = Purchased services less increase in accounts payable ie $1,009 = Decrease in accounts payable by a second interpretation $143
   
   Almost everyone got this question right except us! I will add a point to everyone’s test for this error. My fault — I transposed a number when making up a grade sheet — and I just didn’t check again until I got to the very end and realized what I’d done. So, yes you are right; yes, I was wrong — but I have fixed it by the expedient of adding on a point to everyone!

   b. Purchases = Materials and other expense plus the change in materials and supplies = $789 + (222 - 220) = $791

   c. Collections = Revenue less increase in accounts receivable = $8,187 - (711-620) = $8,096

   d. Cash from operations = $1,871

   e. Cash flow that is available for shareholders. I entertained a range of answers here but essentially I was after cash from operations less cash used for investments less cash retained in the business for liquidity purposes less cash paid out to creditors. Rather than try to provide one number let’s just say that if we found that formula you got full marks, if you did not we deducted a point.

12. Time-line this problem first

   a. Issue price is $6 million x 0.463 + ($6M x 6 percent) x 6.710 = $2,778,000 + 2,415,601 = $5,193,601

   Then create an amortization table:
   
   5,193,601 + 5,193,601 x .08 - 360,000 = 5,249,089
   5,249,089 + 5,605,729 x .08 - 360,000 = 5,390,016

   b. Interest in the second year = 5,605,729 x .08 = $419,927

   c. $5,390,016 less 5,249,089 = $140,927
d. Redo the bond calculation, using a 10 percent discount rate and an 8 year horizon.
   \[6,000,000 \times 0.467 + 360,000 \times 5.335 = 2,802,000 + 1,920,600 = $4,722,600\]

\[e. \text{Redo the bond calculation, but solve for the coupon now:}\]
   \[6,000,000 \times 0.386 + \text{Coupon} \times 6.145 = 4,722,600\]
   \[\text{Coupon} = (4,722,600 - 2,316,000)/6.145 = $391,635\]

I started grading this by taking 4 points off for a wrong answer and then only 1 off for a follow-on error, but decided it was just as easy to take 2 points off for each wrong answer. So, before you turn them back in make sure that you will not be hurt if I regrade it “properly.”

13. I’m getting tired about now!! You must have too!!

Original revenue was $60M and cost of goods sold was $45M to give a gross margin percentage of 25%. The revised revenue was $48M (take off 20% of 60M); and the revised cost of goods sold has to be $36M, therefore, to keep the 25% margin intact. Alternatively take off 20% of $45M. This $9M goes back into inventory. The original turnover was 9x so the original inventory must have been $5M. The new inventory is therefore $14M. Result is an inventory turnover of 2.57 equal to $36/14.