j. The accounts payable balance is reduced.

k. A dividend is paid.

l. Production supplies are purchased and paid for with a short-term note.

m. Utility bills are paid.

n. Cash is paid for raw materials purchased for inventory.

o. Marketable securities are sold.

2. **Cash Equation [LO3]** Saunders Corp. has a book net worth of $13,205. Long-term debt is $8,200. Net working capital, other than cash, is $4,205. Fixed assets are $17,380. How much cash does the company have? If current liabilities are $1,630, what are current assets?

3. **Changes in the Operating Cycle [LO1]** Indicate the effect that the following will have on the operating cycle. Use the letter *I* to indicate an increase, the letter *D* for a decrease, and the letter *N* for no change:

a. Average receivables goes up.

b. Credit repayment times for customers are increased.

c. Inventory turnover goes from 3 times to 6 times.

d. Payables turnover goes from 6 times to 11 times.

e. Receivables turnover goes from 7 times to 9 times.

f. Payments to suppliers are accelerated.

4. **Changes in Cycles [LO1]** Indicate the impact of the following on the cash and operating cycles, respectively. Use the letter *I* to indicate an increase, the letter *D* for a decrease, and the letter *N* for no change:

a. The terms of cash discounts offered to customers are made less favorable.

b. The cash discounts offered by suppliers are decreased; thus, payments are made earlier.

c. An increased number of customers begin to pay in cash instead of with credit.

d. Fewer raw materials than usual are purchased.

e. A greater percentage of raw material purchases are paid for with credit.

f. More finished goods are produced for inventory instead of for order.

5. **Calculating Cash Collections [LO3]** The Morning Jolt Coffee Company has projected the following quarterly sales amounts for the coming year:

	Q1	Q2	Q3	Q4
Sales	$720	$750	$830	$910

a. Accounts receivable at the beginning of the year are $310. Morning Jolt has a 45-day collection period. Calculate cash collections in each of the four quarters by completing the following:

	Q1	Q2	Q3	Q4
Beginning receivables				
Sales				
Cash collections				
Ending receivables				

b. Rework (a) assuming a collection period of 60 days.

c. Rework (a) assuming a collection period of 30 days.

a. What is the total float for the month?

b. What is the average daily float?

c. What are the average daily receipts and weighted average delay?

5. **NPV and Collection Time [LO2]** Your firm has an average receipt size of $125. A bank has approached you concerning a lockbox service that will decrease your total collection time by two days. You typically receive 6,400 checks per day. The daily interest rate is .016 percent. If the bank charges a fee of $175 per day, should the lockbox project be accepted? What would the net annual savings be if the service were adopted?

6. **Using Weighted Average Delay [LO1]** A mail-order firm processes 5,300 checks per month. Of these, 60 percent are for $43 and 40 percent are for $75. The $43 checks are delayed two days on average; the $75 checks are delayed three days on average. Assume 30 days in a month.

a. What is the average daily collection float? How do you interpret your answer?

b. What is the weighted average delay? Use the result to calculate the average daily float.

c. How much should the firm be willing to pay to eliminate the float?

d. If the interest rate is 7 percent per year, calculate the daily cost of the float.

e. How much should the firm be willing to pay to reduce the weighted average float to 1.5 days?

7. **Value of Lockboxes [LO2]** Paper Submarine Manufacturing is investigating a lockbox system to reduce its collection time. It has determined the following:

Average number of payments per day	385
Average value of payment	$975
Variable lockbox fee (per transaction)	$.35
Daily interest rate on money market securities	.068%

The total collection time will be reduced by three days if the lockbox system is adopted.

a. What is the PV of adopting the system?

b. What is the NPV of adopting the system?

c. What is the net cash flow per day from adopting? Per check?

8. **Lockboxes and Collections [LO2]** It takes Cookie Cutter Modular Homes, Inc., about six days to receive and deposit checks from customers. Cookie Cutter's management is considering a lockbox system to reduce the firm's collection times. It is expected that the lockbox system will reduce receipt and deposit times to three days total. Average daily collections are $130,000, and the required rate of return is 5 percent per year. Assume 365 days per year.

a. What is the reduction in outstanding cash balances as a result of implementing the lockbox system?

b. What is the dollar return that could be earned on these savings?

c. What is the maximum monthly charge Cookie Cutter should pay for this lockbox system if the payment is due at the end of the month? What if the payment is due at the beginning of the month?

9. **Value of Delay [LO2]** No More Pencils, Inc., disburses checks every two weeks that average $86,000 and take seven days to clear. How much interest can the company earn annually if it delays transfer of funds from an interest-bearing

What are annual credit sales? What is the receivables turnover? Assume 365 days per year.

7. **Size of Accounts Receivable [LO1]** Essence of Skunk Fragrances, Ltd., sells 8,200 units of its perfume collection each year at a price per unit of $430. All sales are on credit with terms of 1/10, net 40. The discount is taken by 60 percent of the customers. What is the amount of the company's accounts receivable? In reaction to sales by its main competitor, Sewage Spray, Essence of Skunk is considering a change in its credit policy to terms of 2/10, net 30 to preserve its market share. How will this change in policy affect accounts receivable?

8. **Size of Accounts Receivable [LO1]** The Arizona Bay Corporation sells on credit terms of net 30. Its accounts are, on average, 7 days past due. If annual credit sales are $9.3 million, what is the company's balance sheet amount in accounts receivable?

9. **Evaluating Credit Policy [LO2]** Air Spares is a wholesaler that stocks engine components and test equipment for the commercial aircraft industry. A new customer has placed an order for eight high-bypass turbine engines, which increase fuel economy. The variable cost is $1.9 million per unit, and the credit price is $2.015 million each. Credit is extended for one period, and based on historical experience, payment for about 1 out of every 200 such orders is never collected. The required return is 1.8 percent per period.

   a. Assuming that this is a one-time order, should it be filled? The customer will not buy if credit is not extended.

   b. What is the break-even probability of default in part (a)?

   c. Suppose that customers who don't default become repeat customers and place the same order every period forever. Further assume that repeat customers never default. Should the order be filled? What is the break-even probability of default?

   d. Describe in general terms why credit terms will be more liberal when repeat orders are a possibility.

10. **Credit Policy Evaluation [LO2]** Devour, Inc., is considering a change in its cash-only sales policy. The new terms of sale would be net one month. Based on the following information, determine if Devour should proceed or not. Describe the buildup of receivables in this case. The required return is .95 percent per month.

	Current Policy	New Policy
Price per unit	$720	$720
Cost per unit	$525	$525
Unit sales per month	1,240	1,290

11. **EOQ [LO4]** Redan Manufacturing uses 2,500 switch assemblies per week and then reorders another 2,500. If the relevant carrying cost per switch assembly is $7.50, and the fixed order cost is $1,300, is Redan's inventory policy optimal? Why or why not?

12. **EOQ [LO4]** The Trektronics store begins each week with 300 phasers in stock. This stock is depleted each week and reordered. If the carrying cost per phaser is $38 per year and the fixed order cost is $75, what is the total carrying cost? What is the restocking cost? Should Trektronics increase or decrease its order size? Describe an optimal inventory policy for Trektronics in terms of order size and order frequency.

INTERMEDIATE (Questions 13–16)

13. **EOQ Derivation [LO4]** Prove that when carrying costs and restocking costs are as described in the chapter, the EOQ must occur at the point where the carrying costs and restocking costs are equal.