BUSINESS MATHEMATICS SIMULATION: A CASE PROBLEM

WILLIAM M. DILLON

DELMAR PUBLISHERS INC.

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R. J. Marshall Case Problem

Wholesale Business

The R. J. Marshall Case Problem will enable you to experience an actual business operation while reviewing and reinforcing your fundamental business math skills. This case problem requires the performance of a large number of mathematical calculations and also requires the completion of a variety of common business forms. The successful completion of this case problem will indicate that you have a firm grasp of the basic mathematical skills required in business and some knowledge of the workings of an actual business operation.

R. J. Marshall is primarily a wholesale business that operates almost exclusively in New York State and maintains a retail store outlet on the premises. Therefore, the case problem is divided into two parts. Part One deals with the wholesale operation of the business and requires the completion of forty tasks. Part Two, which will be discussed later, deals with the retail outlet store and requires the completion of twenty-four tasks. Each part of the case problem allows you to handle the business math and the business forms used in a wholesale and retail business operation.

You are employed by the firm of R. J. Marshall as a general office worker and bookkeeper. The following is a brief outline of the tasks you will perform as an employee of a wholesale business.

- 1. Receive, check for accuracy, and pay invoices by issuing a check in full payment.* Before issuing the check you should calculate the amount of the cash discount, if any, based on the net amount. It is also important to correctly number each check and, if it is necessary to void a check, be sure the next check is given the same number. This is important because the last task is the preparation of a bank reconciliation statement, and it is necessary that the checks have the right number. (See "void check," page 44)
 - *NOTE: Some invoices contain intentional mistakes which must be corrected by you before issuing a check in full payment of the invoice.
- 2. Issue invoices based on purchase orders received. You must calculate the amount of the list price, trade discount, net amount, add the prepaid shipping, and get the correct total invoice amount.
- 3. Complete daily and weekly sales report.
- 4. Calculate the payroll for all employees of the firm based on the hours worked to find total wages. You must then calculate all the deductions and the amount of net pay. Once the payroll is completed, you must issue payroll checks for each employee.
- 5. You are responsible for making deposits to the firm's checking account and keeping accurate checkbook records. The checkbook must reconcile with the bank statement at the end of the month.

Work carefully and accurately to ensure yourself of getting the correct solutions. The main test for accuracy in this case problem will be your bank reconciliation statement, which must have the correct balance for the month. Additional forms have been provided for all tasks in the case problem.

Task 1 - Monday, March 26, 19--. Write in the check register the balance of \$49,864.34 on check stub #586.

Task 2 - Monday, March 26, 19--. Check the accuracy of all calculations on the following invoice. Write check #586 in full payment of the correct amount.

Parker Manufacturing Company

145 Fullerton Street Troy, New York 12180

R. J. Marshall

SOLD TO: Wholesale Sporting Goods Inc.

18 E. Martin Drive

Highland, NY 12528

INVOICE NO. 29024

DATE: March 18, 19--

TERMS: 3/10, n/30 SHIPPED VIA: Truck

QUANTITY	DESCRIPTION	UNIT PR	ICE	TOTAL AMO	OUNT
250 150 200 150	Skip & Jump Rope #M-485 Home Shuffleboard Set #G-839 Pool Basketall Game #N-284 Pool Ring Toss Game #V-754	2 24 13 7		\$ 625 3,600 2,650 1,050	00 00
	Total List Price Less: Trade Discount 20%			\$ 7,925 1,585	
	Total Net Price Plus: Prepaid Shipping Charges			6,340 296	
	Total Invoice Price			\$ 6,736	80

Task 3 - Monday, March 26, 19--. Write invoice #7286 using the information contained in the following purchase order. Give a trade discount of 20%. Terms of sale are 5/10, n/30. The shipping will be by truck and prepaid in the amount of \$47.60.

The Sport Mart 178 Milton Street Albany, NY 12233

PURCHASE ORDER NO. 0874932

TO: R. J. Marshall

Wholesale Sporting Goods Inc.

DATE: March 22, 19--

18 E. Martin Drive Highland, NY 12528

SHIPPED VIA: Truck

QUANTITY	STOCK NO.	DESCRIPTION	UNIT PRI	CE
3	B-987	Table Tennis Net and Posts	10	80
12	N-850	5-Ply Table Tennis Paddles	4	75
3	H-338	Table Tennis Table - Model T-8937	196	40
1	D-284	Bulk Ball Dispenser - 36 doz. balls	89	40
		Ony at 11) il app		

PURCHASING AGENT

Task 4 - Monday, March 26, 19--. Check the accuracy of all calculations on the following invoice. Write check #587 in full payment of the correct amount.

1	HAMILTON MANUFACTURING COMPANY	16 Tyler Avenue Union City, NJ 07	087
SOLD TO:	18 E. Martin Drive	ENO. 28492 March 17, 19	
TERMS:	2/10, n/30 SHIPPE	ED VIA: Parcel	l Post
QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
200 50	Softball Bats 32" #R-958 Adjustable Batting Tee #H-751	11 75 15 80	\$ 2,350 00 790 00
	Total List Price Less: Trade Discounts 10% & 10%		\$ 3,140 00 569 60
	Total Net Price Plus: Prepaid Shipping Charges		2,570 40 145 90
	Total Invoice Price		\$ 2,716 30

Task 5 - Monday, March 26, 19--. Write invoice #7287 using the information contained in the following purchase order. Give trade discounts of 10% and 20%. Terms of sale are n/30. The shipping will be by parcel post and prepaid in the amount of \$28.70.

Ed's Sport Shop 180 Fulton Avenue Albany, NY 12233

PURCHASE ORDER NO. 679203

TO: R. J. Marshall

DATE: March 21, 19--

Wholesale Sporting Goods Inc. 18 E. Martin Drive Highland, NY 12528

SHIPPED VIA: Parcel Post

PURCHASING AGENT

QU	JANTITY	STOCK NO.	DESCRIPTION	UNIT PRI	CE
	30	C-8709	Sport Helmet - Model G-436	15	00
	25	D-4839	Eyeguard - Model T-749	5	75
	30	D-5773	Eyeguard - Model T-850	14	25
	(lan Parker				

Task 6 - Monday, March 26, 19--. Using the following information, complete the daily sales report given below. Write the amount of sales for each salesperson and find the amount of total daily sales.

Sales: Allen, \$275.00; Burns, \$630.00, Gordon, \$785.00; Norton, \$368.00; Roberts, \$820.00; Tucker, \$1,050.00

R.J. Marshall Wholesale Sporting Goo DAILY SALES REPOR	
DATE	19
SALESMAN	AMOUNT

Task 7 - Monday, March 26, 19--. Using the following information, complete a deposit slip to the firm's checking account. Cash: \$2,785.34; and checks: \$234.89, \$2,738.23, \$145.30, \$1,743.29, \$568.20, \$120.67, \$2,821.59, \$1,080.50 and \$1,154.28.

Task 8 - Monday, March 26, 19--. Write invoice #7288 using the information contained in the following purchase order. Give a trade discount of 30%. Terms of sale are 4/10, n/30. The shipping will be by truck and prepaid in the amount of \$56.48.

R & T Sports Shop 418 South Street Sayville, NY 11782

PURCHASE ORDER NO. 098724

TO: R. J. Marshall Inc.

DATE: March 16, 19--

Wholesale Sporting Goods Inc. 18 E. Martin Drive Highland, NY 12528

SHIPPED VIA: Truck

QUANTITY	STOCK NO.	DESCRIPTION	UNIT PRI	CE
42	C-983	Court Basketball	27	80
15	H - 709	Basketball Scorebook	3	50
48	G - 129	Knee Pads - Gold size med.	4	75
42	G-130	Knee Pads - Maroon & Black size med.	4	75

Samuel PURCHASING AGENT Task 9 - Tuesday, March 27, 19--. Using the following information, complete the payroll book for the firm's office workers.

The payroll is computed on a two-week delay basis. This pay period is for the week ending March 16, 19--. These employees are paid on a 40-hour per week basis with time-and-a-half for all hours worked over 40 hours in any one week. These employees are also paid on a biweekly basis.

Look at page 36 for hourly pay rate, marital status, and number of exemptions claimed by each employee. To compute F.I.C.A. tax, refer to the tax tables given on pages 39 and 40; federal income tax, table on page 38; and state income tax, table on page 41.

The office workers worked the following hours during the pay period:

Week Ending	March 9, 19	Week Ending March 16, 19
Employee Name	Total Hours	Total Hours
Albright, Mary	46	45
Dalton, John	42	43
Harris, Peter	48	40
Norris, Susan	39	44
Peterson, Ann	40	38
Waters, Lynne	38	47

After completing all calculations, complete the payroll book on page 101.

Task 10 - Tuesday, March 27, 19--. Write payroll checks in the amount of the net pay for each office worker. This is for the week ending Friday, March 30, 19--. These checks should be post dated Friday, March 30, 19--, and will be distributed on that date. These checks should start with #588 issued to Albright, and end with #593 issued to Waters.

Task 11 - Tuesday, March 27, 19--. Check the accuracy of all calculations on the following invoice. Write check #594 in full payment of the correct amount.

> Wilson Manufacturing Company 21 Norris Avenue Eaton, New York 13334

R. J. Marshall

TERMS: 4/10, n/30

SOLD TO: Wholesale Sporting Goods Inc.

18 E. Martin Drive Highland, NY 12528

INVOICE NO. 918304

DATE: March 23, 19--

SHIPPED VIA: Truck

QUANTITY	DESCRIPTION	UNIT PRICE TOTAL AM		OUNT	
100 120 80	Basketball "Top Flite" #B-273 Basketball "Jet" #B-250 Basketball "Courtmaster" #B-235		80 50 50	\$ 2,480 2,220 1,080	00
	Total List Price Less: Trade Discount 30%			\$ 5,780 1,734	00
	Total Net Price Plus: Prepaid Shipping Charges			4,046 168	00 90
	Total Invoice Price			\$ 4,214	90

Task 12 - Tuesday, March 27, 19--. Write invoice #7289 using the information contained in the following purchase order. Give trade discounts of 10% and 20%. Terms of sale are n/30. The shipping will be by parcel post and prepaid in the amount of \$176.80.

> U-Play Sport Shop 15 North Street Fort Ann, NY 12827

PURCHASE ORDER NO. 008934

TO: R. J. Marshall Wholesale Sporting Goods Inc.

18 E. Martin Drive Highland, NY 12528

SHIPPED VIA: Parcel Post

DATE: March 18, 19--

QUANTITY	STOCK NO.	DESCRIPTION		CE
75	B-078	Official National League Baseball	4	80
25	B-125	College/Pro Baseball Bats 34/30	38	50
42	S-871	High School/College Softball Bat 30"	13	75
18	B-419	Fielders Baseball Glove	16	50
48	H-305	Protective Helmet Blue - size med.	10	75
				3

William Dulton PURCHASING AGENT

Task 13 - Tuesday, March 27, 19--. Write invoice #7290 using the information contained in the following purchase order. Give a trade discount of 35%. Terms of sale are 4/10, n/30. The shipping will be by truck and prepaid in the amount of \$47.90.

Horton's Sporting Goods 34 Dwight Place Dover, NJ 07801

PURCHASE ORDER NO. 471096

TO: R. J. Marshall

DATE: March 23, 19--

Wholesale Sporting Goods Inc. 18 E. Martin Drive

Highland, NY 12528

SHIPPED VIA: Truck

QUANTITY	STOCK NO.	DESCRIPTION	UNIT PRI	ICE
6	N-275	General Purpose Tennis Net	87	50
10	R-290	Pro-110 Composite Tennis Racket	95	00
30	R-240	Aluminum Tennis Racket	32	00
40	H-150	White Tennis Hat size med.	4	75
36	G-810	Tennis Glove - right hand - size 8	5	50

Steve Helman
PURCHASING AGENT

Task 14 - Tuesday, March 27, 19--. Check the accuracy of all calculations on the following invoice. Write check #595 in full payment of the correct amount.

		23 Market Street Groton, NY 13073	
SOLD TO:	18 E. Martin Drive	ENO. 090475	
TERMS:	n/30 SHIPPE	D VIA: Parcel	l Post
QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
96 120 100	Field Hockey Stick #BN-308 Lacrosse Stick Men's #B-875 Lacrosse Stick Women's #B-870 Total List Price Less: Trade Discounts 10% & 20% Total Net Price Plus: Prepaid Shipping Charges Total Invoice Price	21 80 18 75	\$ 1,968 00 2,616 00 1,875 00 \$ 6,459 00 1,808 52 4,650 48 218 40 \$ 4,868 88

- Task 15 Tuesday, March 27, 19--. Using the following information complete a deposit slip to the firm's checking account. Cash: \$1,843.75; and checks: \$423.90, \$132.54, \$1,396.30, \$654.20, \$1,804.85, \$331.85, \$1,274.45, \$265.37 and \$982.56.
- Task 16 Tuesday, March 27, 19--. Using the following information, complete the daily sales report. Write the amount of sales for each salesperson and find the amount of total daily sales.

Sales: Allen, \$310.00; Burns, \$742.00; Gordon, \$860.00; Norton, \$384.00; Roberts, \$920.00; Tucker, \$960.00

R.J. Marshall Wholesale Sporting Goods Inc. DAILY SALES REPORT			
DATE	19		
SALESMAN	AMOUNT		

Task 17 - Wednesday, March 28, 19--. Check the accuracy of all calculations on the following invoice. Write check #596 in full payment of the correct amount.

Fuller Manufacturing Company Hobart, New York 13788 197 East Hamilton Street R. J. Marshall Wholesale Sporting Goods Inc. SOLD TO: **INVOICE NO.** 903720 18 E. Martin Drive DATE: March 17, 19--Highland, NY 12528 TERMS: 5/10, 3/15, n/45 SHIPPED VIA: Truck QUANTITY UNIT PRICE TOTAL AMOUNT DESCRIPTION 4,245 00 28 30 150 Leather Football - Norton #FB-27 2,150 00 2,205 00 1,725 00 21 50 14 70 100 Leather Football - Norton #FB-22 Rubber Football - Blass #FB-12 Rubber Football - Blass #FB-10 150 11 50 150 \$10,325 00 3,717 00 Total List Price Less: Trade Discounts 20% & 20% 6,608 00 Total Net Price 195 00 Plus: Prepaid Shipping Charges \$ 6,803 00 Total Invoice Price

Task 18 - Wednesday, March 28, 19--. Write invoice #7291 using the information contained in the following purchase order. Give a trade discount of 25%. Terms of sale are 5/10, 3/20, n/45. The shipping will be by parcel post and prepaid in the amount of \$48.25.

Fair Haven Sport Mart PURCHASE ORDER NO. 893012 78 South Avenue Fair Haven, NY 12433

TO: R. J. Marshall DATE: March 24, 19--Wholesale Sporting Goods Inc. 18 E. Martin Drive

Highland, NY 12528 SHIPPED VIA: Parcel Post

QUANTITY	STOCK NO.	DESCRIPTION	UNIT PRI	CE
27	V-384	Leather Volleyball	31	00
36	G-150	Knee Pads - Orange size large	7	50
36	V-275	Rubber Volleyball	14	50

ann Huttor PURCHASING AGENT Task 19 - Wednesday, March 28, 19--. Using the following information, complete the payroll book for the firm's salespeople.

The payroll is computed on a one-month delay basis. This pay period is for the month of February. Full time salespeople receive a monthly salary plus a commission on all sales. Part time salespeople receive only a commission on all sales. These employees are paid on a $\underline{monthly}$ \underline{basis} .

Look at page 36 for the monthly salary, marital status, and number of exemptions claimed by each salesperson. To compute F.I.C.A. tax, refer to the tables given on pages 39 and 40; federal income tax, table on page 38; and state income tax, table on page 42.

The total sales for each salesperson for the month of February are as follows:

*	Allen,	Thomas	\$ 7,486.00
	Burns,	Daniel	\$13,947.00
	Gordon,	June	\$17,116.00
*	Norton,	Mary	\$ 8,338.00
	Roberts	, Susan	\$15,748.00
	Tucker,	Edward	\$18,539.00
*]	Part-tim	e salespeople	

After completing all calculations, complete the payroll book on page 103.

Task 20 - Wednesday, March 28, 19--. Write payroll checks in the amount of the net pay for each salesperson. This is for the month ending Friday, March 30, 19--. These checks should be post dated Friday, March 30, 19--, and will be distributed on that date. These checks should start with #597 issued to Allen and end with #602 issued to Tucker.

Task 21 - Wednesday, March 28, 19--. Using the following information, complete the daily sales report given below. Write the amount of sales for each salesperson and find the amount of total daily sales.

Sales: Allen, \$286.00; Burns, \$728.00; Gordon, \$742.00; Norton, \$421.00; Roberts, \$786.00; Tucker, \$984.00

R.J. Marshall Wholesale Sporting Goo	ds Inc.
DAILY SALES REPOR	_
SALESMAN	AMOUNT

Task 22 - Wednesday, March 28, 19--. Check the accuracy of all calculations on the following invoice. Write check #603 in full payment of the correct amount.

	NU-STYLE MANUFACTURING COMPANY Gle	748 Third Avenue nford, New York 12	2464
SOLD TO:	R. J. Marshall Wholesale Sporting Goods Inc. INVOIC 18 E. Martin Drive	E NO . 02719	50
		March 26,	19
TERMS:	n/30 SHIPPE	D VIA: Parce	l Post
QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
120 144 96	Aluminum Tennis Racket #T-285 Steel Tennis Racket #T-320 Wood Tennis Racket #T-430 Total List Price Less: Trade Discount 25% Total Net Price Plus: Prepaid Shipping Charges Total Invoice Price	23 50 16 75 14 50	\$ 2,820 00 2,412 00 1,392 00 \$ 6,624 00 1,656 00 4,968 00 167 42 \$ 5,135 42

Task 23 - Wednesday, March 28, 19--. Using the following information, complete a deposit slip to the firm's checking account. Cash: \$3,293.76; and checks: \$423.89, \$1,845.20, \$734.29, \$2,274.80, \$384.58, \$542.30, \$1,645.78, \$102.50, and \$948.32.

Task 24 - Wednesday, March 28, 19--. Write invoice #7292 using the information contained in the following purchase order. Give trade discounts of 10% and 30%. Terms of sale are 4/10, n/30. The shipping will be by truck and prepaid in the amount of \$146.80.

Tom's Sporting Goods 38 Parker Avenue Hector, NY 14841

PURCHASE ORDER NO. 0938271

TO: R. J. Marshall

Wholesale Sporting Goods Inc.

18 E. Martin Drive Highland. NY 12528

DATE: March 26, 19--

SHIPPED VIA: Truck

QUANTITY	STOCK NO.	DESCRIPTION	UNIT PRICE	
20 pr.	B-385	Indoor Starting Track Blocks	16	
15 3	C-209 B-115	Fiberglass Crossbar 14' 10" Steel Vault Box	56 108	
10	D-375 D-150	College Discus 4 lbs. 6.547 oz. High School Discus 3 lbs. 9 oz.	95 85	
				<i>y</i> •

Reter Marrison