

Solutions Chapter 13

Exercise 13.1

Variance	Calculations	Result
Efficiency labor	$(22,000 - 23,100) * \$5$	(\$5,500)
Price labor	$23,100 * \$5 - \$116,655$	(\$1,155)
Efficiency materials	$(16,500 - 15,950) * \$8$	\$4,400
Price materials	$15,950 * \$8 - \$126,005$	\$1,595

Exercise 13.2

a.

sales reps: \$ 160,000
lease: 28,800
fuel: 12,000
office staff: 70,000
rent: 24,000
other: 9,000
discounts: 63,000
 \$366,800

b.

$100,000 (\$18 - \$10) = \$800,000$
 366,800
 \$433,200

c.

sales reps: \$ 160,000
lease: 29,200
fuel: 11,220
office staff: 70,000
rent: 25,200
other: 10,500
discounts: 64,800
 \$370,920

$96,750 (\$18 - \$9.50) = \$822,375$
 370,920
 451,455

d. Difference: $\$451,455 - \$433,200 = \$18,255$.

<i>Variance</i>	<i>Calculations</i>	<i>Result (\$)</i>
purchase price	96,750*\$0.50	48,375 +
Sales volume	(96,750-100,000)*\$8	26,000 -
Lease	\$28,800 – \$29,200	400 -
fuel price	204*\$5	1,020 +
fuel efficiency	(200-204)*\$60	240 -
Rent	12*(\$2,000 – \$2,100)	1,200 -
Other	\$9,000 – \$10,500	1,500 -
Discounts	\$63,000 – \$64,800	1,800 -
Total		18,255

Exercise 13.3

Standard full cost per unit = \$20 + \$30 + \$400,000/50,000 = \$58.

Budget profit = 50,000*(\$70 - \$58) = \$600,000.

Scenario 1

Actual profit = \$653,250 (for AC & DC).

Direct costing

<i>Variance</i>	<i>Calculations</i>	<i>Result (\$)</i>
Sales volume variance	3,000*(\$70 - \$50)	60,000
Sales price variance	53,000*\$70 – \$3,710,000	0
Efficiency materials	(106,000 – 105,000)*\$10	10,000
Price materials	105,000*\$10 – \$1,044,750	5,250
Efficiency labor	(79,500 – 80,000)*\$20	(10,000)
Price labor	80,000*\$20 – \$1,592,000	8,000
Fixed cost	\$400,000 - \$420,000	(20,000)
Total variances		53,250

Absorption costing

<i>Variance</i>	<i>Calculations</i>	<i>Result (\$)</i>
Sales volume variance	3,000*(\$70 - \$58)	36,000
Production volume variance	3,000*\$8	24,000
Sales price variance	53,000*\$70 – \$3,710,000	0
Efficiency materials	(106,000 – 105,000)*\$10	10,000
Price materials	105,000*\$10 – \$1,044,750	5,250
Efficiency labor	(79,500 – 80,000)*\$20	(10,000)
Price labor	80,000*\$20 – \$1,592,000	8,000
Fixed cost	\$400,000 - \$420,000	(20,000)
Total variances		53,250

Scenario 2

Actual profit DC= \$3,621,000 – \$390,000 – \$1,010,000 – \$1,463,650 – 2,000*\$50 = \$657,350.

<i>Variance</i>	<i>Calculations</i>	<i>Result (\$)</i>
Sales volume variance	1,000*(\$70 - \$50)	20,000
Sales price variance	\$3,621,000 - 51,000*\$70	51,000
Efficiency materials	(98,000 – 100,000)*\$10	(20,000)
Price materials	100,000*\$10 – \$1,010,000	(10,000)
Efficiency labor	(73,500 – 73,000)*\$20	10,000
Price labor	73,000*\$20 – \$1,463,650	(3,650)
Fixed cost	\$400,000 - \$390,000	10,000
Total variances		57,350

Actual profit AC= \$3,621,000 – \$390,000 – \$1,010,000 – \$1,463,650 – 2,000*\$58 = \$641,350.

<i>Variance</i>	<i>Calculations</i>	<i>Result (\$)</i>
Sales volume variance	1,000*(\$70 - \$58)	12,000
Production volume variance	-1,000*\$8	(8,000)
Sales price variance	\$3,621,000 - 51,000*\$70	51,000
Efficiency materials	(98,000 – 100,000)*\$10	(20,000)
Price materials	100,000*\$10 – \$1,010,000	(10,000)
Efficiency labor	(73,500 – 73,000)*\$20	10,000
Price labor	73,000*\$20 – \$1,463,650	(3,650)
Fixed cost	\$400,000 - \$390,000	10,000
Total variances		41,350