

Variance Analysis Practice Questions (Set I)

1. Gallop, Inc. budgeted its variable overhead application rate as \$0.25 per direct labor hour. Actual variable overhead cost for the period is \$9,700. If the actual number of labor hours worked during the period are 38,500 and if there is a total unfavorable flexible variable overhead variance of \$230, calculate the standard number of direct labor hours allowed for the output achieved by Gallop within this period.
 - a. 38,500
 - b. 37,880
 - c. 37,920
 - d. 39,720

2. A company developed the following per-unit standards for its product: 2 pounds of direct materials at \$6 per pound. Last month, 1,000 pounds of direct materials were purchased for \$5,700. During last month, the company used 500 pound in producing 200 units of output. The direct materials purchase price variance and direct material efficiency variance, respectively, for last month were:
 - a. \$300 F and 600 U
 - b. \$300 F and 100 U
 - c. \$150 F and 600 U
 - d. \$300 U and 100 F

3. The standard number of hours that should have been worked for the output attained is 8,000 direct labor hours and the actual number of direct labor hours worked was 8,400. If the direct labor price variance was \$4,200 unfavorable, and the standard rate of pay was \$9 per direct labor hour, what was the actual rate of pay for direct labor?
 - a. \$8.50 per direct labor hour
 - b. \$7.50 per direct labor hour
 - c. \$9.50 per direct labor hour
 - d. \$9.00 per direct labor hour

4. A company uses 6,300 pounds of materials and exceeds the standard by 300 pounds. The quantity variance is \$900 unfavorable. What is the standard price?
 - a. \$1.00
 - b. \$2.00
 - c. \$3.00
 - d. Cannot be determined from the data provided

5. A company purchases 15,000 pounds of materials. The materials price variance is \$3,000 favorable. What is the difference between the standard and actual price paid for the materials?
 - a. \$1.00
 - b. \$0.20
 - c. \$5.00
 - d. Cannot be determined from the given information.

6. If a purchasing agent is able to negotiate a price lower than that set by the current budget by purchasing poor quality direct materials, then:
 - a. a reduction in customer service costs will result
 - b. there will not be an unfavourable direct materials efficiency variance
 - c. there will not be an unfavourable direct labour efficiency variance
 - d. there will not be an unfavourable purchase price variance

 7. The direct materials usage budget is based on:
 - a. the units to be produced during a period
 - b. budgeted sales dollars
 - c. the predetermined factory overhead rate
 - d. the amount of labour hours worked

 8. A summary of 19X5 performance for Colony Corporation included three amounts for contribution margin; master budget \$660,000, flexible budget \$700,000, and actual results \$690,000. The sales volume variance is:
 - a. \$40,000 favorable
 - b. \$30,000 unfavorable
 - c. \$20,000 favorable
 - d. \$10,000 favorable
 - e. \$40,000 unfavorable
-

Use the following information to answer the next five questions

Luanna Inc. manufactures game consoles. Some of the company's data was misplaced. Use the following information to replace the lost data.

	Static (Master) Budget	Actual Results	Flexible Budget	Flexible Budget Variance
Units	1700 units	1760 units		
Sales Revenues	B	\$103,840	A	\$1,760 U
Variable Costs	\$47,600	C		
Fixed Costs		20,700		E
Operating Income	25,000	44,350	D	

9. The amount **A** is:
 - A. \$102,080.
 - B. \$103,440.
 - C. \$105,600.
 - D. \$108,000.
 - E. None of the above.

10. The amount **B** is:
 - A. \$100,300.
 - B. \$102,000.
 - C. \$103,440.
 - D. \$105,600.
 - E. None of the above.

11. The amount **C** is:
 - A. \$38,790.
 - B. \$59,490.
 - C. \$65,050.
 - D. \$83,140.
 - E. None of the above.

12. The amount **D** is:
 - A. \$26,920.
 - B. \$33,720.
 - C. \$35,620.
 - D. \$42,450.
 - E. None of the above.

13. The amount **E** is:
 - A. \$8700 F.
 - B. \$8700 U.
 - C. \$29,400 F.
 - D. \$29,400 U.
 - E. None of the above.

Use the following to answer the next two questions:

The Geurtz Company uses standard costing. The company makes and sells a single product called a Roff. The following data are for the month of August:

- Actual cost of direct material purchased and used: \$65,560
- Material price variance: \$5,960 unfavourable
- Total (flexible budget) materials variance: \$22,360 unfavourable
- Standard cost per pound of material: \$4
- The total number of units of Roff produced during August was 3,600.

14. The standard material allowed to produce one unit of Roff was:

- a. 1 lb
- b. 4 lbs
- c. 3 lbs
- d. 2 lbs

15. The actual material cost per pound was:

- a. \$4.00
- b. \$3.67
- c. \$3.30
- d. \$4.40

Use the following information for the next 6 questions:

The following information is available from the Terry Company:

Actual total factory overhead cost incurred	\$25,000
Actual fixed overhead cost incurred	\$10,400
Budgeted fixed overhead expenses	\$11,000
Actual direct labor hours (DLH) worked	4,400
Standard DLHs for this period's production	4,000
Standard variable overhead rate per DLH	\$ 3.00
Standard fixed overhead rate per DLH	\$ 2.50

16. What is the total overhead spending variance for Terry Company for the period?
 - A. \$800 unfavorable.
 - B. \$1,000 unfavorable.
 - C. \$1,200 unfavorable.
 - D. \$1,400 unfavorable.
 - E. \$2,000 unfavorable.

17. What is the overhead production volume variance for Terry Company for the period?
 - A. \$600 favorable.
 - B. \$1,000 unfavorable.
 - C. \$1,200 unfavorable.
 - D. \$1,400 favorable.
 - E. \$1,400 unfavorable.

18. What is the variable overhead (VOH) spending variance for Terry Company for the period?
 - A. \$600 favorable.
 - B. \$800 unfavorable.
 - C. \$1,000 unfavorable.
 - D. \$1,400 favorable.
 - E. \$1,400 unfavorable.

19. The fixed overhead spending variance for Terry Company for the period is:
 - A. \$600 favorable.
 - B. \$800 unfavorable.
 - C. \$1,000 unfavorable.
 - D. \$1,200 unfavorable.
 - E. \$1,200 favorable.

20. The total under or over applied overhead for Terry Company for the period is:
 - A. \$800 overapplied.
 - B. \$800 underapplied.
 - C. \$2,600 underapplied.
 - D. \$3,000 overapplied.
 - E. \$3,000 underapplied.

21. The total overhead flexible-budget (FB) variance for the period is:
- A. \$800 unfavorable.
 - B. \$1,400 unfavorable.
 - C. \$2,000 unfavorable.
 - D. \$2,600 unfavorable.
 - E. \$3,000 unfavorable.

1	B	11	A
2	A	12	A
3	C	13	A
4	C	14	C
5	B	15	D
6	D	16	A
7	A	17	B
8	A	18	E
9	C	19	A
10	B	20	E
		21	C

Variance Analysis Practice Questions (Set II)

1. The per-unit standards for direct materials are 2 gallons at \$4 per gallon. Last month, 5,600 gallons of direct materials that actually cost \$21,200 were used to produce 3,000 units of product. The direct materials quantity variance for last month was
 - a. \$1,600 favorable.
 - b. \$1,200 favorable.
 - c. \$1,600 unfavorable.
 - d. \$2,800 unfavorable.
 - e. None of the above

2. The per-unit standards for direct labor are 2 direct labor hours at \$12 per hour. If in producing 1,200 units, the actual direct labor cost was \$25,600 for 2,000 direct labor hours worked, the total direct labor variance is
 - a. \$960 unfavorable.
 - b. \$3,200 favorable.
 - c. \$2,000 unfavorable.
 - d. \$3,200 unfavorable.
 - e. None of the above

3. The standard rate of pay is \$10 per direct labor hour. If the actual direct labor payroll was \$39,200 for 4,000 direct labor hours worked, the direct labor price (rate) variance is
 - a. \$800 unfavorable.
 - b. \$800 favorable.
 - c. \$1,000 unfavorable.
 - d. \$1,000 favorable.
 - e. None of the above

4. The standard number of hours that should have been worked for the output attained is 8,000 direct labor hours and the actual number of direct labor hours worked was 8,400. If the direct labor price variance was \$4,200 unfavorable, and the standard rate of pay was \$9 per direct labor hour, what was the actual rate of pay for direct labor?
 - a. \$8.50 per direct labor hour
 - b. \$7.50 per direct labor hour
 - c. \$9.50 per direct labor hour
 - d. \$9.00 per direct labor hour

5. A company uses 6,300 pounds of materials and exceeds the standard by 300 pounds. The quantity variance is \$900 unfavorable. What is the standard price?
 - a. \$1.00.
 - b. \$2.00.
 - c. \$3.00.
 - d. Cannot be determined from the data provided.

6. A company purchases 15,000 pounds of materials. The materials price variance is \$3,000 favorable. What is the difference between the standard and actual price paid for the materials?
 - a. \$1.00.
 - b. \$.20.
 - c. \$5.00.
 - d. Cannot be determined.

7. If the materials price variance is \$1,200 F and the materials quantity and labor variances are each \$900 U, what is the total materials variance?
 - a. \$1,200 F
 - b. \$900 U
 - c. \$300 F
 - d. \$1,350 U

Use the following information for questions 8–10

Staley Company has a materials price standard of \$3.00 per pound. Two thousand pounds of materials were purchased at \$3.30 a pound. The actual quantity of materials used was 2,000 pounds, although the standard quantity allowed for the output was 1,800 pounds.

8. Staley Company's materials price variance is
 - a. \$60 U.
 - b. \$600 U.
 - c. \$540 U.
 - d. \$600 F.

9. Staley Company's materials quantity variance is
 - a. \$600 U.
 - b. \$600 F.
 - c. \$660 F.
 - d. \$660 U.

10. Staley Company's total materials variance is
 - a. \$1,200 U.
 - b. \$1,200 F.
 - c. \$1,260 U.
 - d. \$1,260 F.

11. A company developed the following per-unit standards for its product: 2 pounds of direct materials at \$6 per pound. Last month, 1,000 pounds of direct materials were purchased for \$5,700. During last month, the company used 500 pound in producing 200 units of output. The direct materials purchase price variance and direct material efficiency variance, respectively, for last month were
- \$300 F and 600 U.
 - \$300 F and 100 U.
 - \$150 F and 600 U.
 - \$300 U and 100 F.
 - None of the above

Questions 12 - 14 are based on the following information:

Cole Laboratories makes and sells a lawn fertilizer called Fastgro. The company has developed standard costs for one bag of Fastgro as follows:

	Standard Quantity	Standard Cost per Bag
Direct material	20 kilograms	\$8.00
Direct labour	0.1 hours	1.10

The company had no beginning inventories of any kind on Jan. 1. During January, the following activity was recorded by the company for the actual performance:

⓪	Production of Fastgro:	4,000 bags
⓪	Direct materials purchased:	85,000 kilograms at a cost of \$32,300
⓪	Direct labour worked:	390 hours at a cost of \$4,875
⓪	Inventory of direct materials on Jan. 31:	3,000 kilograms

12. What was the direct material purchase price variance for January?
- \$40 F.
 - \$1640 F.
 - \$1600 F.
 - \$1600 U.
 - None of the above
13. What was the direct labor rate variance for January?
- \$475 F.
 - \$475 U.
 - \$585 F.
 - \$585 U.
 - None of the above
14. What was the direct labor efficiency variance for January?
- \$110F.
 - \$130 U.
 - \$350 U.
 - \$475 F.
 - None of the above

15) Leek Company predicted that the fixed overhead would be \$200,000 in April 2015. Production amounted to 60,000 actual and 50,000 budgeted decks of cards. Each deck takes approximately 0.20 machine hours to produce. The actual overhead costs per machine hour are \$25. What is the production-volume variance?

- A) \$40,000 unfavourable
- B) \$40,000 favourable
- C) \$150,000 unfavourable
- D) \$150,000 favourable
- E) \$0

16) Budgeted output for DuCane Small Engines Inc. was 20,000 engines during February 2016. Budgeted fixed overhead per output unit was \$2.50, and 30,000 engines were actually produced. Actual fixed overhead was allocated at \$3.00 per engine. What is the production-volume variance?

- A) \$33,500 favourable
- B) \$25,000 unfavourable
- C) \$30,000 favourable
- D) \$30,000 unfavourable
- E) \$25,000 favourable

Answer the following four question(s) using the information below.

Jenny's Corporation manufactured 25,000 grooming kits for horses during March. The fixed-overhead cost allocation rate is \$20.00 per machine-hour. The following fixed overhead data pertain to March:

	Actual	Static Budget
Production	25,000 units	24,000 units
Machine-hours	6,100 hours	6,000 hours
Fixed overhead costs for March	\$123,000	\$120,000

17) What is the flexible-budget amount for fixed-overhead?

- A) \$120,000
- B) \$122,000
- C) \$123,000
- D) \$125,000
- E) \$120,983

18) What is the amount of fixed overhead allocated to production?

- A) \$120,000
- B) \$122,000
- C) \$123,000
- D) \$125,000
- E) \$130,000

19) What is the fixed overhead rate variance?

- A) \$1,000 unfavourable
- B) \$2,000 favourable
- C) \$3,000 unfavourable
- D) \$5,000 favourable
- E) \$983 unfavourable

20) What is the production-volume variance?

- A) \$2,000 unfavourable
- B) \$3,000 favourable
- C) \$4,000 unfavourable
- D) \$5,000 favourable
- E) \$10,000 favourable

Answers

1. A
2. B
3. B
4. C
5. C
6. B
7. C
8. B
9. A
10. A
11. A
12. E
13. D
14. A
15. **Explanation:** B) $\$200,000 - (60,000 \times (\$200,000/50,000)) = \$40,000$ favourable
16. **Explanation:** E) $(20,000 - 30,000) \times \$2.50 = 25,000$ favourable
17. **Explanation:** A) $\$120,000$, the same lump sum as the static budget
18. **Explanation:** D) $25,000 \times (6,000/24,000) \times \$20.00 = \$125,000$
19. **Explanation:** C) $\$123,000$ actual costs - $\$120,000$ budgeted cost = $\$3,000$ unfavourable
20. **Explanation:** D) $\$120,000 - [25,000 \times (6,000/24,000) \times \$20.00] = \$5,000$ favourable

Problem 1:

Brussels Chocolate Company produces chocolates in large batches. One batch of chocolate has the following standard costs and amounts:

Standard kilograms of sugar	125
Standard cost per kilogram of sugar	\$1.60
Standard direct labour hours	0.75
Standard direct labour cost per hour	\$21.00

Brussels Chocolate Company produced 600 batches of chocolates in the most recent month. Actual input costs and per batch usage levels were as follows:

Actual kilograms of sugar used	126
Actual cost per kilogram of sugar	\$1.65
Actual direct labour hours	0.80
Actual direct labour cost per hour	\$20.75

Required:

- a. Calculate the total material rate variance.
- b. Calculate the total material efficiency variance.
- c. Calculate the total labour rate variance.
- d. Calculate the total labour efficiency variance.

Problem 2:

Teri's Furniture uses variance analysis to evaluate manufacturing overhead in its' table factory. The information for the May overhead expenditures is as follows:

Budgeted output units	14,000 tables
Budgeted fixed manufacturing overhead	\$22,400
Budgeted VFOH application rate	\$3.00 per direct labour hour
Standard direct labour hours per unit	0.2 hour per table
Fixed manufacturing costs incurred	\$24,000
Direct labour hours used	4,000 hours
Variable manufacturing costs incurred	\$11,000
Actual units manufactured	15,000 tables

Required:

Calculate the variable manufacturing overhead rate and efficiency variances; and, the fixed manufacturing overhead rate and production-volume variances.

Answer: Problem 1:

- a. Material input rate variance
 $((\$1.60 - \$1.65) \times 126 \text{ kg.}) \times 600 \text{ batches} = \$3,780 \text{ unfavourable}$
- b. Material efficiency variance
 $((125 \text{ kg.} - 126 \text{ kg.}) \times \$1.60) \times 600 \text{ batches} = \960 unfavourable
- c. Labour rate variance
 $((\$21.00 - \$20.75) \times 0.8 \text{ hours}) \times 600 \text{ batches} = \120 favourable
- d. Labour efficiency variance
 $((0.75 \text{ hours} - 0.8 \text{ hours}) \times \$21.00) \times 600 \text{ batches} = 630 \text{ unfavourable}$

Answer: Problem 2:

Variable overhead spending variance = $\$11,000 - (4,000 \times \$3) = \$1,000 \text{ favourable}$

Variable overhead efficiency variance = $\$3 \times (4,000 - 3,000) = \$3,000 \text{ unfavourable}$
 $15,000 \text{ units} \times 0.2 \text{ hours} = 3,000$

Fixed overhead spending variance = $\$24,000 - \$22,400 = \$1,600 \text{ unfavourable}$

Fixed OH production-volume variance = $\$22,400 - (15,000 \times 0.2 \times \$8) = \$1,600 \text{ favourable}$

$\$22,400 / (14,000 \text{ units} \times 0.2 \text{ hours}) = \8