Student name:\_\_\_\_\_\_\_\_\_\_

**TRUE/FALSE - Write 'T' if the statement is true and 'F' if the statement is false.  
1)** When the fixed costs of capacity are spread over the estimated activity of the period rather than the level of activity at capacity, the units that are produced must shoulder the costs of unused capacity.

⊚ true  
 ⊚ false

**2)** When the predetermined overhead rate is based on the level of activity at capacity, an item called the Cost of Unused Capacity may appear to be treated as a period expense on income statements prepared for internal management use.

⊚ true  
 ⊚ false

**3)** If the predetermined overhead rate is based on the estimated level of activity for the current period, then products will be charged only for the capacity that they use and will not be charged for the capacity they don't use.

⊚ true  
 ⊚ false

**MULTIPLE CHOICE - Choose the one alternative that best completes the statement or answers the question.  
4)** Risser Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated jointer. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $16,120 |
| **Capacity of the jointer** | 310 hours |
| **Actual results:** |  |
| **Sales** | $60,800 |
| **Direct materials** | $16,600 |
| **Direct labor** | $14,600 |
| **Actual total fixed manufacturing overhead** | $16,120 |
| **Selling and administrative expense** | $10,900 |
| **Actual hours of jointer use** | 270 hours |

The gross margin that would be reported on the income statement prepared for internal management purposes would be closest to:

A) $4,660   
 B) $15,560  
 C) $26,460  
 D) $60,800

**5)** Risser Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated jointer. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $14,256 |
| **Capacity of the jointer** | 240 hours |
| **Actual results:** |  |
| **Sales** | $62,310 |
| **Direct materials** | $14,100 |
| **Direct labor** | $16,000 |
| **Actual total fixed manufacturing overhead** | $14,256 |
| **Selling and administrative expense** | $8,900 |
| **Actual hours of jointer use** | 220 hours |

The gross margin that would be reported on the income statement prepared for internal management purposes would be closest to:

A) $10,242   
 B) $19,142  
 C) $17,954  
 D) $62,310

**6)** The management of Garn Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity rather than on the estimated activity for the coming year. The Corporation’s controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated activity for the upcoming year is 54,500 machine-hours. Capacity is 72,500 machine-hours. All of the manufacturing overhead is fixed and is $4,060,000 per year within the range of 54,500 to 72,500 machine-hours. If the Corporation bases its predetermined overhead rate on capacity but the actual level of activity for the year turns out to be 55,300 machine-hours, the cost of unused capacity shown on the income statement prepared for internal management purposes would be closest to:

A) $58,734   
 B) $1,021,934  
 C) $963,200  
 D) $59,596

**7)** The management of Garn Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity rather than on the estimated activity for the coming year. The Corporation’s controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated activity for the upcoming year is 69,000 machine-hours. Capacity is 85,000 machine-hours. All of the manufacturing overhead is fixed and is $4,105,500 per year within the range of 69,000 to 85,000 machine-hours. If the Corporation bases its predetermined overhead rate on capacity but the actual level of activity for the year turns out to be 69,700 machine-hours, the cost of unused capacity shown on the income statement prepared for internal management purposes would be closest to:

A) $772,800   
 B) $780,640  
 C) $738,990  
 D) $41,650

**8)** The management of Krach Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 19,000 machine-hours. Capacity is 23,000 machine-hours and the actual level of activity for the year is assumed to be 11,500 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $48,300 per year. For simplicity, it is assumed that this is the estimated manufacturing overhead for the year as well as the manufacturing overhead at capacity. It is further assumed that this is also the actual amount of manufacturing overhead for the year.  
 If the company bases its predetermined overhead rate on capacity, what would be the cost of unused capacity reported on the income statement prepared for internal management purposes?

A) $4,000   
 B) $24,150  
 C) $15,750  
 D) $39,900

**9)** The management of Krach Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 10,000 machine-hours. Capacity is 12,000 machine-hours and the actual level of activity for the year is assumed to be 9,500 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $12,000 per year. For simplicity, it is assumed that this is the estimated manufacturing overhead for the year as well as the manufacturing overhead at capacity. It is further assumed that this is also the actual amount of manufacturing overhead for the year.  
 If the company bases its predetermined overhead rate on capacity, what would be the cost of unused capacity reported on the income statement prepared for internal management purposes?

A) $2,000   
 B) $2,500  
 C) $1,900  
 D) $600

**10)** The management of Winterroth Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The Corporation's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Estimated at the Beginning of the Year** | **Capacity** | **Actual** |
| **Machine-hours** | 44,000 | 54,000 | 40,000 |
| **Manufacturing overhead** | $1,860,300 | $1,860,300 | $1,860,300 |

If the Corporation bases its predetermined overhead rate on capacity, then as shown on the income statement prepared for internal management purposes, the cost of unused capacity would be closest to:

A) $344,500   
 B) $482,300  
 C) $138,000  
 D) $169,118

**11)** The management of Winterroth Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The Corporation's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Estimated at the Beginning of the Year** | **Capacity** | **Actual** |
| **Machine-hours** | 53,000 | 63,000 | 49,000 |
| **Manufacturing overhead** | $1,803,060 | $1,803,060 | $1,803,060 |

If the Corporation bases its predetermined overhead rate on capacity, then as shown on the income statement prepared for internal management purposes, the cost of unused capacity would be closest to:

A) $286,200   
 B) $400,680  
 C) $264,600  
 D) $136,080

**12)** Dowty Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated lathe. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $19,964 |
| **Capacity of the lathe** | 280 hours |
| **Actual results:** |  |
| **Actual total fixed manufacturing overhead** | $19,964 |
| **Actual hours of lathe use** | 230 hours |

The manufacturing overhead applied is closest to:

A) $19,964   
 B) $16,399  
 C) $7,639  
 D) $9,300

**13)** Rapier Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated jointer. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $3,636 |
| **Capacity of the jointer** | 180 hours |
| **Actual results:** |  |
| **Actual total fixed manufacturing overhead** | $3,636 |
| **Actual hours of jointer use** | 150 hours |

The predetermined overhead rate based on hours at capacity is closest to:

A) $54.51 per hour   
 B) $45.40 per hour  
 C) $24.24 per hour  
 D) $20.20 per hour

**14)** Rapier Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated jointer. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $3,740 |
| **Capacity of the jointer** | 200 hours |
| **Actual results:** |  |
| **Actual total fixed manufacturing overhead** | $3,740 |
| **Actual hours of jointer use** | 170 hours |

The predetermined overhead rate based on hours at capacity is closest to:

A) $58.24 per hour   
 B) $49.50 per hour  
 C) $22.00 per hour  
 D) $18.70 per hour

**15)** Traeger Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated bandsaw. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $26,541 |
| **Capacity of the bandsaw** | 270 hours |
| **Actual results:** |  |
| **Actual total fixed manufacturing overhead** | $26,541 |
| **Actual hours of bandsaw use** | 250 hours |

The cost of unused capacity that would be reported as a period expense on the income statement prepared for internal management purposes would be closest to:

A) $1,966   
 B) $17,694  
 C) $0  
 D) $19,660

**16)** Traeger Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated bandsaw. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $26,936 |
| **Capacity of the bandsaw** | 280 hours |
| **Actual results:** |  |
| **Actual total fixed manufacturing overhead** | $26,936 |
| **Actual hours of bandsaw use** | 260 hours |

The cost of unused capacity that would be reported as a period expense on the income statement prepared for internal management purposes would be closest to:

A) $1,924   
 B) $18,136  
 C) $0  
 D) $18,765

**17)** Mausser Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated jointer. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $21,462 |
| **Capacity of the jointer** | 420 hours |
| **Actual results:** |  |
| **Sales** | $63,400 |
| **Direct materials** | $12,740 |
| **Direct labor** | $16,710 |
| **Actual total fixed manufacturing overhead** | $21,462 |
| **Selling and administrative expense** | $8,600 |
| **Actual hours of jointer use** | 370 hours |

The cost of unused capacity that would be reported as a period expense on the income statement prepared for internal management purposes would be closest to:

A) $0   
 B) $12,862  
 C) $2,555  
 D) $15,417

**18)** Mausser Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated jointer. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $11,648 |
| **Capacity of the jointer** | 280 hours |
| **Actual results:** |  |
| **Sales** | $52,760 |
| **Direct materials** | $13,300 |
| **Direct labor** | $16,000 |
| **Actual total fixed manufacturing overhead** | $11,648 |
| **Selling and administrative expense** | $9,300 |
| **Actual hours of jointer use** | 260 hours |

The cost of unused capacity that would be reported as a period expense on the income statement prepared for internal management purposes would be closest to:

A) $0   
 B) $2,348  
 C) $832  
 D) $3,012

**19)** Mausser Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated jointer. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $11,648 |
| **Capacity of the jointer** | 280 hours |
| **Actual results:** |  |
| **Sales** | $52,760 |
| **Direct materials** | $13,300 |
| **Direct labor** | $16,000 |
| **Actual total fixed manufacturing overhead** | $11,648 |
| **Selling and administrative expense** | $9,300 |
| **Actual hours of jointer use** | 260 hours |

The gross margin that would be reported on the income statement prepared for internal management purposes would be closest to:

A) $52,760   
 B) $3,344  
 C) $12,644  
 D) $11,812

**20)** Coble Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated shaper. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $33,075 |
| **Capacity of the shaper** | 270 hours |
| **Actual results:** |  |
| **Sales** | $79,268 |
| **Direct materials** | $12,200 |
| **Direct labor** | $17,400 |
| **Actual total fixed manufacturing overhead** | $33,075 |
| **Selling and administrative expense** | $8,100 |
| **Actual hours of shaper use** | 250 hours |

The predetermined overhead rate based on hours at capacity is closest to:

A) $30.00 per hour   
 B) $122.50 per hour  
 C) $32.40 per hour  
 D) $132.30 per hour

**21)** Coble Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated shaper. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $85,950 |
| **Capacity of the shaper** | 450 hours |
| **Actual results:** |  |
| **Sales** | $157,000 |
| **Direct materials** | $11,800 |
| **Direct labor** | $16,900 |
| **Actual total fixed manufacturing overhead** | $85,950 |
| **Selling and administrative expense** | $5,300 |
| **Actual hours of shaper use** | 410 hours |

The manufacturing overhead applied is closest to:

A) $13,956   
 B) $85,950  
 C) $5,300  
 D) $78,310

**22)** Coble Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated shaper. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $33,075 |
| **Capacity of the shaper** | 270 hours |
| **Actual results:** |  |
| **Sales** | $79,268 |
| **Direct materials** | $12,200 |
| **Direct labor** | $17,400 |
| **Actual total fixed manufacturing overhead** | $33,075 |
| **Selling and administrative expense** | $8,100 |
| **Actual hours of shaper use** | 250 hours |

The manufacturing overhead applied is closest to:

A) $7,500   
 B) $33,075  
 C) $8,100  
 D) $30,625

**23)** Coble Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated shaper. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $56,250 |
| **Capacity of the shaper** | 450 hours |
| **Actual results:** |  |
| **Sales** | $104,000 |
| **Direct materials** | $11,600 |
| **Direct labor** | $16,700 |
| **Actual total fixed manufacturing overhead** | $56,250 |
| **Selling and administrative expense** | $5,700 |
| **Actual hours of shaper use** | 410 hours |

The cost of unused capacity that would be reported as a period expense on the income statement prepared for internal management purposes would be closest to:

A) $5,000   
 B) $0  
 C) $50,550  
 D) $56,250

**24)** Coble Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated shaper. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $33,075 |
| **Capacity of the shaper** | 270 hours |
| **Actual results:** |  |
| **Sales** | $79,268 |
| **Direct materials** | $12,200 |
| **Direct labor** | $17,400 |
| **Actual total fixed manufacturing overhead** | $33,075 |
| **Selling and administrative expense** | $8,100 |
| **Actual hours of shaper use** | 250 hours |

The cost of unused capacity that would be reported as a period expense on the income statement prepared for internal management purposes would be closest to:

A) $2,450   
 B) $0  
 C) $24,975  
 D) $25,575

**25)** Coble Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated shaper. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $84,960 |
| **Capacity of the shaper** | 480 hours |
| **Actual results:** |  |
| **Sales** | $143,000 |
| **Direct materials** | $11,500 |
| **Direct labor** | $16,400 |
| **Actual total fixed manufacturing overhead** | $84,960 |
| **Selling and administrative expense** | $3,300 |
| **Actual hours of shaper use** | 430 hours |

The gross margin that would be reported on the income statement prepared for internal management purposes would be closest to:

A) $38,990   
 B) $26,840  
 C) $35,690  
 D) $143,000

**26)** Coble Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated shaper. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $33,075 |
| **Capacity of the shaper** | 270 hours |
| **Actual results:** |  |
| **Sales** | $79,268 |
| **Direct materials** | $12,200 |
| **Direct labor** | $17,400 |
| **Actual total fixed manufacturing overhead** | $33,075 |
| **Selling and administrative expense** | $8,100 |
| **Actual hours of shaper use** | 250 hours |

The gross margin that would be reported on the income statement prepared for internal management purposes would be closest to:

A) $19,043   
 B) $16,593  
 C) $10,943  
 D) $79,268

**27)** Dunnings Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated router. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $10,998 |
| **Capacity of the router** | 180 hours |
| **Actual results:** |  |
| **Actual total fixed manufacturing overhead** | $10,998 |
| **Actual hours of router use** | 130 hours |

The predetermined overhead rate based on hours at capacity is closest to:

A) $84.60 per hour   
 B) $61.10 per hour  
 C) $61.54 per hour  
 D) $44.44 per hour

**28)** Dunnings Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated router. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $10,998 |
| **Capacity of the router** | 180 hours |
| **Actual results:** |  |
| **Actual total fixed manufacturing overhead** | $10,998 |
| **Actual hours of router use** | 130 hours |

The manufacturing overhead applied is closest to:

A) $7,943   
 B) $8,000  
 C) $5,778  
 D) $10,998

**29)** The management of Bullinger Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 24,000 machine-hours. Capacity is 27,000 machine-hours and the actual level of activity for the year is assumed to be 22,700 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $35,520 per year. For simplicity, it is assumed that this is the estimated manufacturing overhead for the year as well as the manufacturing overhead at capacity. It is further assumed that this is also the actual amount of manufacturing overhead for the year.  
 If the company bases its predetermined overhead rate on the estimated amount of the allocation base for the upcoming year, then the predetermined overhead rate is closest to:

A) $1.48 per machine-hour   
 B) $1.65 per machine-hour  
 C) $1.32 per machine-hour  
 D) $1.56 per machine-hour

**30)** The management of Bullinger Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 9,000 machine-hours. Capacity is 12,000 machine-hours and the actual level of activity for the year is assumed to be 7,700 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $11,880 per year. For simplicity, it is assumed that this is the estimated manufacturing overhead for the year as well as the manufacturing overhead at capacity. It is further assumed that this is also the actual amount of manufacturing overhead for the year.  
 If the company bases its predetermined overhead rate on the estimated amount of the allocation base for the upcoming year, then the predetermined overhead rate is closest to:

A) $1.32 per machine-hour   
 B) $1.49 per machine-hour  
 C) $0.99 per machine-hour  
 D) $1.54 per machine-hour

**31)** The management of Bullinger Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 27,000 machine-hours. Capacity is 30,000 machine-hours and the actual level of activity for the year is assumed to be 25,700 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $35,910 per year. For simplicity, it is assumed that this is the estimated manufacturing overhead for the year as well as the manufacturing overhead at capacity. It is further assumed that this is also the actual amount of manufacturing overhead for the year.  
 If the company bases its predetermined overhead rate on capacity, then the predetermined overhead rate is closest to:

A) $1.40 per machine-hour   
 B) $1.33 per machine-hour  
 C) $1.50 per machine-hour  
 D) $1.20 per machine-hour

**32)** The management of Bullinger Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 9,000 machine-hours. Capacity is 12,000 machine-hours and the actual level of activity for the year is assumed to be 7,700 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $11,880 per year. For simplicity, it is assumed that this is the estimated manufacturing overhead for the year as well as the manufacturing overhead at capacity. It is further assumed that this is also the actual amount of manufacturing overhead for the year.  
 If the company bases its predetermined overhead rate on capacity, then the predetermined overhead rate is closest to:

A) $1.54 per machine-hour   
 B) $1.32 per machine-hour  
 C) $1.49 per machine-hour  
 D) $0.99 per machine-hour

**33)** The management of Bullinger Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 19,000 machine-hours. Capacity is 22,000 machine-hours and the actual level of activity for the year is assumed to be 17,700 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $27,360 per year. For simplicity, it is assumed that this is the estimated manufacturing overhead for the year as well as the manufacturing overhead at capacity. It is further assumed that this is also the actual amount of manufacturing overhead for the year.  
 If the company bases its predetermined overhead rate on capacity, what would be the cost of unused capacity reported on the income statement prepared for internal management purposes? **(Round intermediate calculations to 2 decimal places.)**

A) $3,270.00   
 B) $3,540.00  
 C) $1,872.00  
 D) $5,412.00

**34)** The management of Bullinger Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 9,000 machine-hours. Capacity is 12,000 machine-hours and the actual level of activity for the year is assumed to be 7,700 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $11,880 per year. For simplicity, it is assumed that this is the estimated manufacturing overhead for the year as well as the manufacturing overhead at capacity. It is further assumed that this is also the actual amount of manufacturing overhead for the year.  
 If the company bases its predetermined overhead rate on capacity, what would be the cost of unused capacity reported on the income statement prepared for internal management purposes?

A) $2,970   
 B) $2,541  
 C) $1,716  
 D) $4,257

**35)** Zackery Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated lathe. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $7,452 |
| **Capacity of the lathe** | 230 hours |
| **Actual results:** |  |
| **Actual total fixed manufacturing overhead** | $7,452 |
| **Actual hours of lathe use** | 180 hours |

The manufacturing overhead applied is closest to:

A) $9,900   
 B) $5,832  
 C) $7,748  
 D) $7,452

**36)** Zackery Woodworking Corporation produces fine cabinets. The company uses a job-order costing system in which its predetermined overhead rate is based on capacity. The capacity of the factory is determined by the capacity of its constraint, which is an automated lathe. Additional information is provided below for the most recent month:

|  |  |
| --- | --- |
| **Estimates at the beginning of the month:** |  |
| **Estimated total fixed manufacturing overhead** | $7,452 |
| **Capacity of the lathe** | 230 hours |
| **Actual results:** |  |
| **Actual total fixed manufacturing overhead** | $7,452 |
| **Actual hours of lathe use** | 180 hours |

The cost of unused capacity that would be reported as a period expense on the income statement prepared for internal management purposes would be closest to:

A) $2,448   
 B) $296  
 C) $0  
 D) $1,620

**37)** The management of Holdaway Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 71,100 machine-hours. Capacity is 80,100 machine-hours and the actual level of activity for the year is assumed to be 67,000 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $5,701,518 per year. For simplicity, it is assumed that this is the estimated manufacturing overhead for the year as well as the manufacturing overhead at capacity. It is further assumed that this is also the actual amount of manufacturing overhead for the year.  
 If the company bases its predetermined overhead rate on capacity, then the predetermined overhead rate is closest to:

A) $80.19 per machine-hour   
 B) $78.00 per machine-hour  
 C) $85.10 per machine-hour  
 D) $71.18 per machine-hour

**38)** The management of Holdaway Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 79,000 machine-hours. Capacity is 88,000 machine-hours and the actual level of activity for the year is assumed to be 74,900 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $5,700,640 per year. For simplicity, it is assumed that this is the estimated manufacturing overhead for the year as well as the manufacturing overhead at capacity. It is further assumed that this is also the actual amount of manufacturing overhead for the year.  
 If the company bases its predetermined overhead rate on capacity, then the predetermined overhead rate is closest to:

A) $72.16 per machine-hour   
 B) $70.38 per machine-hour  
 C) $76.11 per machine-hour  
 D) $64.78 per machine-hour

**39)** The management of Holdaway Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 79,000 machine-hours. Capacity is 88,000 machine-hours and the actual level of activity for the year is assumed to be 74,900 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $5,700,640 per year. For simplicity, it is assumed that this is the estimated manufacturing overhead for the year as well as the manufacturing overhead at capacity. It is further assumed that this is also the actual amount of manufacturing overhead for the year.  
 If the company bases its predetermined overhead rate on capacity, what would be the cost of unused capacity reported on the income statement prepared for internal management purposes?

A) $295,856   
 B) $848,618  
 C) $583,020  
 D) $552,762

**40)** The management of Featheringham Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 52,200 machine-hours. Capacity is 65,200 machine-hours and the actual level of activity for the year is assumed to be 49,200 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $2,836,852 per year. It is assumed that a number of jobs were worked on during the year, one of which was Job Z77W which required 570 machine-hours. If the company bases its predetermined overhead rate on capacity, then the predetermined overhead rate is closest to:

A) $54.35 per machine-hour   
 B) $43.51 per machine-hour  
 C) $58.34 per machine-hour  
 D) $52.34 per machine-hour

**41)** The management of Featheringham Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 62,000 machine-hours. Capacity is 75,000 machine-hours and the actual level of activity for the year is assumed to be 59,000 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $2,836,500 per year. It is assumed that a number of jobs were worked on during the year, one of which was Job Z77W which required 410 machine-hours.  
 If the company bases its predetermined overhead rate on capacity, then the predetermined overhead rate is closest to:

A) $48.08 per machine-hour   
 B) $37.82 per machine-hour  
 C) $48.91 per machine-hour  
 D) $45.75 per machine-hour

**42)** The management of Featheringham Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 51,500 machine-hours. Capacity is 64,500 machine-hours and the actual level of activity for the year is assumed to be 48,500 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $2,837,355 per year. It is assumed that a number of jobs were worked on during the year, one of which was Job Z77W which required 370 machine-hours.  
 If the company bases its predetermined overhead rate on capacity, then the amount of manufacturing overhead charged to job Z77W is closest to:

A) $16,276.30   
 B) $20,790.30  
 C) $21,985.65  
 D) $21,645.80

**43)** The management of Featheringham Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 62,000 machine-hours. Capacity is 75,000 machine-hours and the actual level of activity for the year is assumed to be 59,000 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $2,836,500 per year. It is assumed that a number of jobs were worked on during the year, one of which was Job Z77W which required 410 machine-hours.  
 If the company bases its predetermined overhead rate on capacity, then the amount of manufacturing overhead charged to job Z77W is closest to:

A) $15,506.20   
 B) $19,065.00  
 C) $20,051.12  
 D) $19,711.27

**44)** The management of Featheringham Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 62,000 machine-hours. Capacity is 75,000 machine-hours and the actual level of activity for the year is assumed to be 59,000 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $2,836,500 per year. It is assumed that a number of jobs were worked on during the year, one of which was Job Z77W which required 410 machine-hours.  
 If the company bases its predetermined overhead rate on capacity, what would be the cost of unused capacity reported on the income statement prepared for internal management purposes?

A) $137,250   
 B) $605,120  
 C) $491,660  
 D) $467,870

**45)** The management of Plitt Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 61,000 machine-hours. Capacity is 77,000 machine-hours and the actual level of activity for the year is assumed to be 68,000 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $2,301,530 per year. It is assumed that a number of jobs were worked on during the year, one of which was Job Q20L which required 500 machine-hours.  
   
 If the company bases its predetermined overhead rate on the estimated amount of the allocation base for the upcoming year, then the predetermined overhead rate is closest to:

A) $33.85 per machine-hour   
 B) $26.81 per machine-hour  
 C) $37.73 per machine-hour  
 D) $29.89 per machine-hour

**46)** The management of Plitt Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 69,000 machine-hours. Capacity is 82,000 machine-hours and the actual level of activity for the year is assumed to be 72,400 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $4,130,340 per year. It is assumed that a number of jobs were worked on during the year, one of which was Job Q20L which required 470 machine-hours.  
 If the company bases its predetermined overhead rate on the estimated amount of the allocation base for the upcoming year, then the predetermined overhead rate is closest to:

A) $57.05 per machine-hour   
 B) $60.83 per machine-hour  
 C) $59.86 per machine-hour  
 D) $50.37 per machine-hour

**47)** The management of Plitt Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 77,000 machine-hours. Capacity is 91,000 machine-hours and the actual level of activity for the year is assumed to be 85,500 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $450,450 per year. It is assumed that a number of jobs were worked on during the year, one of which was Job Q20L which required 300 machine-hours.  
 If the company bases its predetermined overhead rate on the estimated amount of the allocation base for the upcoming year, then the amount of manufacturing overhead charged to Job Q20L is closest to:

A) $1,485.00   
 B) $1,580.53  
 C) $1,337.37  
 D) $1,755.00

**48)** The management of Plitt Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 69,000 machine-hours. Capacity is 82,000 machine-hours and the actual level of activity for the year is assumed to be 72,400 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $4,130,340 per year. It is assumed that a number of jobs were worked on during the year, one of which was Job Q20L which required 470 machine-hours.  
 If the company bases its predetermined overhead rate on the estimated amount of the allocation base for the upcoming year, then the amount of manufacturing overhead charged to Job Q20L is closest to:

A) $23,673.90   
 B) $26,812.98  
 C) $28,589.98  
 D) $28,134.20

**49)** The management of Plitt Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 69,000 machine-hours. Capacity is 82,000 machine-hours and the actual level of activity for the year is assumed to be 72,400 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $4,130,340 per year. It is assumed that a number of jobs were worked on during the year, one of which was Job Q20L which required 470 machine-hours.  
 If the company bases its predetermined overhead rate on capacity, then the predetermined overhead rate is closest to:

A) $57.05 per machine-hour   
 B) $59.86 per machine-hour  
 C) $50.37 per machine-hour  
 D) $60.83 per machine-hour

**50)** The management of Plitt Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 64,000 machine-hours. Capacity is 78,000 machine-hours and the actual level of activity for the year is assumed to be 76,000 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $1,223,040 per year. It is assumed that a number of jobs were worked on during the year, one of which was Job Q20L which required 390 machine-hours.  
 If the company bases its predetermined overhead rate on capacity, then the amount of manufacturing overhead charged to Job Q20L is closest to:

A) $7,452.90   
 B) $5,149.64  
 C) $6,276.13  
 D) $6,115.20

**51)** The management of Plitt Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 69,000 machine-hours. Capacity is 82,000 machine-hours and the actual level of activity for the year is assumed to be 72,400 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $4,130,340 per year. It is assumed that a number of jobs were worked on during the year, one of which was Job Q20L which required 470 machine-hours.  
 If the company bases its predetermined overhead rate on capacity, then the amount of manufacturing overhead charged to Job Q20L is closest to:

A) $28,589.98   
 B) $26,592.60  
 C) $26,812.98  
 D) $23,673.90

**52)** The management of Plitt Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 55,000 machine-hours. Capacity is 76,000 machine-hours and the actual level of activity for the year is assumed to be 71,000 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $2,508,000 per year. It is assumed that a number of jobs were worked on during the year, one of which was Job Q20L which required 410 machine-hours.  
 If the company bases its predetermined overhead rate on capacity, what would be the cost of unused capacity reported on the income statement prepared for internal management purposes?

A) $693,000   
 B) $729,600  
 C) $565,183  
 D) $165,000

**53)** The management of Plitt Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 69,000 machine-hours. Capacity is 82,000 machine-hours and the actual level of activity for the year is assumed to be 72,400 machine-hours. All of the manufacturing overhead is fixed and both the estimated amount at the beginning of the year and the actual amount at the end of the year are assumed to be $4,130,340 per year. It is assumed that a number of jobs were worked on during the year, one of which was Job Q20L which required 470 machine-hours.  
 If the company bases its predetermined overhead rate on capacity, what would be the cost of unused capacity reported on the income statement prepared for internal management purposes?

A) $654,810   
 B) $687,076  
 C) $547,669  
 D) $483,552

**ESSAY. Write your answer in the space provided or on a separate sheet of paper.  
54)** The management of Kotek Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity rather than on the estimated amount of activity for the year. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 8,000 machine-hours. In addition, capacity is 10,000 machine-hours and the actual activity for the year is 8,700 machine-hours. All of the manufacturing overhead is fixed and is $6,400 per year. Job L77S, which required 220 machine-hours, is one of the jobs worked on during the year.  
 **Required:**  
 a. Determine the predetermined overhead rate if the predetermined overhead rate is based on activity at capacity.  
 b. Determine how much overhead would be applied to Job L77S if the predetermined overhead rate is based on activity at capacity.  
 c. Determine the cost of unused capacity for the year if the predetermined overhead rate is based on activity at capacity.

**55)** The management of Schneiter Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity rather than on the estimated amount of activity for the year. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 42,000 machine-hours. In addition, capacity is 46,000 machine-hours and the actual activity for the year is 43,000 machine-hours. All of the manufacturing overhead is fixed and is $734,160 per year.  
 **Required:**  
 a. Determine the predetermined overhead rate if the predetermined overhead rate is based on activity at capacity.  
 b. Determine the cost of unused capacity for the year if the predetermined overhead rate is based on activity at capacity.

**56)** The management of Bouyer Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity rather than on the estimated amount of activity for the year. The company's controller has provided an example to illustrate how this new system would work. In this example, the allocation base is machine-hours and the estimated amount of the allocation base for the upcoming year is 34,000 machine-hours. In addition, capacity is 37,000 machine-hours and the actual activity for the year is 34,700 machine-hours. All of the manufacturing overhead is fixed and is $377,400 per year.  
 **Required:**  
 Determine the cost of unused capacity for the year if the predetermined overhead rate is based on activity at capacity.

**57)** The management of Buelow Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity rather than on the estimated amount of activity for the year. The company's controller has provided an example to illustrate how this new system would work.

|  |  |
| --- | --- |
| **Estimated activity for the upcoming year** | 76,000 machine-hours |
| **Capacity** | 94,000 machine-hours |
| **Actual activity for the year** | 82,800 machine-hours |
| **Manufacturing overhead (all fixed)** | $5,572,320 per year |

Job Q58A, which required 130 machine-hours, is one of the jobs worked on during the year.  
 **Required:**  
 a. Determine the predetermined overhead rate if the predetermined overhead rate is based on the estimated activity for the upcoming year.  
 b. Determine how much overhead would be applied to Job Q58A if the predetermined overhead rate is based on estimated activity for the upcoming year.  
 c. Determine the predetermined overhead rate if the predetermined overhead rate is based on the activity at capacity.  
 d. Determine how much overhead would be applied to Job Q58A if the predetermined overhead rate is based on activity at capacity.  
 e. Determine the cost of unused capacity for the year if the predetermined overhead rate is based on activity at capacity.  
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**58)** The management of Wrights Corporation would like to investigate the possibility of basing its predetermined overhead rate on activity at capacity rather than on the estimated amount of activity for the year. The company's controller has provided an example to illustrate how this new system would work.

|  |  |
| --- | --- |
| **Estimated activity for the upcoming year** | 15,000 machine-hours |
| **Capacity** | 18,000 machine-hours |
| **Actual activity for the year** | 15,800 machine-hours |
| **Manufacturing overhead (all fixed)** | $43,200 per year |

**Required:**  
 a. Determine the predetermined overhead rate if the predetermined overhead rate is based on the estimated activity for the upcoming year.  
 b. Determine the cost of unused capacity for the year if the predetermined overhead rate is based on activity at capacity.

**Answer Key**Test name: ch 2B2

1) TRUE

2) TRUE

3) FALSE

4) B

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity =$16,120 ÷ 310 hours = $52.00 per hour

|  |  |  |
| --- | --- | --- |
| **Sales** |  | $60,800 |
| **Cost of Goods Sold:** |  |  |
| **Direct materials** | $16,600 |  |
| **Direct labor** | 14,600 |  |
| **Manufacturing overhead applied**  **270 hours × $52.00 per hour** | 14,040 | 45,240 |
| **Gross margin** |  | $15,560 |

5) B

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $14,256 ÷ 240 hours = $59.40 per hour

|  |  |  |
| --- | --- | --- |
| **Sales** |  | $62,310 |
| **Cost of Goods Sold:** |  |  |
| **Direct materials** | $14,100 |  |
| **Direct labor** | 16,000 |  |
| **Manufacturing overhead applied**  **220 hours × $59.40 per hour** | 13,068 | 43,168 |
| **Gross margin** |  | $19,142 |

6) C

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $4,060,000 ÷ 72,500 machine-hours = $56.00 per machine-hour

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $4,060,000 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $56.00 per machine-hour |
| **Actual hours** | 55,300 machine-hours |
| **Manufacturing overhead applied to jobs** | $3,096,800 |
| **Cost of unused capacity** | $963,200 |

7) C

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $4,105,500 ÷ 85,000 machine-hours = $48.30 per machine-hour

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $4,105,500 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $48.30 per machine-hour |
| **Actual hours** | 69,700 machine-hours |
| **Manufacturing overhead applied to jobs** | $3,366,510 |
| **Cost of unused capacity** | $738,990 |

8) B

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $48,300 ÷ 23,000 machine-hours = $2.10 per machine-hour

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $48,300 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $2.10 per machine-hour |
| **Actual hours** | 11,500 machine-hours |
| **Manufacturing overhead applied to jobs** | $24,150 |
| **Cost of unused capacity** | $24,150 |

9) B

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $12,000 ÷ 12,000 machine-hours = $1.00 per machine-hour

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $12,000 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $1.00 per machine-hour |
| **Actual hours** | 9,500 machine-hours |
| **Manufacturing overhead applied to jobs** | $9,500 |
| **Cost of unused capacity** | $2,500 |

10) B

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $1,860,300 ÷ 54,000 machine-hours = $34.45 per machine-hour

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $1,860,300 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $34.45 per machine-hour |
| **Actual hours** | 40,000 machine-hours |
| **Manufacturing overhead applied to jobs** | $1,378,000 |
| **Cost of unused capacity** | $482,300 |

11) B

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $1,803,060 ÷ 63,000 machine-hours = $28.62 per machine-hour

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $1,803,060 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $28.62 per machine-hour |
| **Actual hours** | 49,000 machine-hours |
| **Manufacturing overhead applied to jobs** | $1,402,380 |
| **Cost of unused capacity** | $400,680 |

12) B

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $19,964 ÷ 280 hours = $71.30 per hour  
 Manufacturing overhead applied = Predetermined overhead rate × Actual amount of the allocation base = 230 hours × $71.30 per hour = $16,399

13) D

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $3,636 ÷ 180 hours = $20.20 per hour

14) D

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $3,740 ÷ 200 hours = $18.70 per hour

15) A

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $26,541 ÷ 270 hours = $98.30 per hour  
 Cost of unused capacity = (Amount of the allocation base at capacity − Actual amount of the allocation base) × Predetermined overhead rate = (270 hours − 250 hours) × $98.30 per hour = $1,966

16) A

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $26,936 ÷ 280 hours = $96.20 per hour  
 Cost of unused capacity = (Amount of the allocation base at capacity − Actual amount of the allocation base) × Predetermined overhead rate = (280 hours − 260 hours) × $96.20 per hour = $1,924

17) C

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $21,462 ÷ 420 hours = $51.10 per hour  
 Cost of unused capacity = (Amount of the allocation base at capacity − Actual amount of the allocation base) × Predetermined overhead rate = (420 hours − 370 hours) × $51.10 per hour = $2,555

18) C

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $11,648 ÷ 280 hours = $41.60 per hour  
 Cost of unused capacity = (Amount of the allocation base at capacity − Actual amount of the allocation base) × Predetermined overhead rate = (280 hours − 260 hours) × $41.60 per hour = $832

19) C

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $11,648 ÷ 280 hours = $41.60 per hour

|  |  |  |
| --- | --- | --- |
| **Sales** |  | $52,760 |
| **Cost of Goods Sold:** |  |  |
| **Direct materials** | $13,300 |  |
| **Direct labor** | 16,000 |  |
| **Manufacturing overhead applied**  **260 hours × $41.60 per hour** | 10,816 | 40,116 |
| **Gross margin** |  | $12,644 |

20) B

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $33,075 ÷ 270 hours = $122.50 per hour

21) D

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $85,950 ÷ 450 hours = $191 per hour  
 Manufacturing overhead applied = Predetermined overhead rate × Actual amount of the allocation base = 410 hours × $191 per hour = $78,310

22) D

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $33,075 ÷ 270 hours = $122.50 per hour  
 Manufacturing overhead applied = Predetermined overhead rate × Actual amount of the allocation base = 250 hours × $122.50 per hour = $30,625

23) A

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $56,250 ÷ 450 hours = $125 per hour  
 Cost of unused capacity = (Amount of the allocation base at capacity − Actual amount of the allocation base) × Predetermined overhead rate = (450 hours − 410 hours) × $125 per hour = $5,000

24) A

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $33,075 ÷ 270 hours = $122.50 per hour  
 Cost of unused capacity = (Amount of the allocation base at capacity − Actual amount of the allocation base) × Predetermined overhead rate = (270 hours − 250 hours) × $122.50 per hour = $2,450

25) A

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $84,960 ÷ 480 hours = $177 per hour

|  |  |  |
| --- | --- | --- |
| **Sales** |  | $143,000 |
| **Cost of Goods Sold:** |  |  |
| **Direct materials** | $11,500 |  |
| **Direct labor** | 16,400 |  |
| **Manufacturing overhead applied**  **430 hours × $177.00 per hour** | 76,110 | 104,010 |
| **Gross margin** |  | $38,990 |

26) A

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $33,075 ÷ 270 hours = $122.50 per hour

|  |  |  |
| --- | --- | --- |
| **Sales** |  | $79,268 |
| **Cost of Goods Sold:** |  |  |
| **Direct materials** | $12,200 |  |
| **Direct labor** | 17,400 |  |
| **Manufacturing overhead applied**  **250 hours × $122.50 per hour** | 30,625 | 60,225 |
| **Gross margin** |  | $19,043 |

27) B

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $10,998 ÷ 180 hours = $61.10 per hour

28) A

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $10,998 ÷ 180 hours = $61.10 per hour  
 Manufacturing overhead applied = Predetermined overhead rate × Actual amount of the allocation base = 130 hours × $61.10 per hour = $7,943

29) A

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = $35,520 ÷ 24,000 machine-hours = $1.48 per machine-hour

30) A

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = $11,880 ÷ 9,000 machine-hours = $1.32 per machine-hour

31) D

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $35,910 ÷ 30,000 machine-hours = $1.20 per machine-hour

32) D

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $11,880 ÷ 12,000 machine-hours = $0.99 per machine-hour

33) D

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $27,360 ÷ 22,000 machine-hours = $1.24 per machine-hour

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $27,360 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $1.24 per machine-hour |
| **Actual hours** | 17,700 machine-hours |
| **Manufacturing overhead applied to jobs** | $21,948 |
| **Cost of unused capacity** | $5,412 |

34) D

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $11,880 ÷ 12,000 machine-hours = $0.99 per machine-hour

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $11,880 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $0.99 per machine-hour |
| **Actual hours** | 7,700 machine-hours |
| **Manufacturing overhead applied to jobs** | $7,623 |
| **Cost of unused capacity** | $4,257 |

35) B

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $7,452 ÷ 230 hours = $32.40 per hour  
 Manufacturing overhead applied = Predetermined overhead rate × Actual amount of the allocation base = 180 hours × $32.40 per hour = $5,832

36) D

Predetermined overhead rate based on capacity = Estimated total fixed manufacturing overhead cost at capacity ÷ Estimated total amount of the allocation base at capacity = $7,452 ÷ 230 hours = $32.40 per hour  
 Cost of unused capacity = (Amount of the allocation base at capacity − Actual amount of the allocation base) × Predetermined overhead rate = (230 hours − 180 hours) × $32.40 per hour = $1,620

37) D

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $5,701,518 ÷ 80,100 machine-hours = $71.18 per machine-hour

38) D

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $5,700,640 ÷ 88,000 machine-hours = $64.78 per machine-hour

39) B

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $5,700,640 ÷ 88,000 machine-hours = $64.78 per machine-hour

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $5,700,640 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $64.78 per machine-hour |
| **Actual hours** | 74,900 machine-hours |
| **Manufacturing overhead applied to jobs** | $4,852,022 |
| **Cost of unused capacity** | $848,618 |

40) B

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $2,836,852 ÷ 65,200 machine-hours = $43.51 per machine-hour

41) B

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $2,836,500 ÷ 75,000 machine-hours = $37.82 per machine-hour

42) A

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $2,837,355 ÷ 64,500 machine-hours = $43.99 per machine-hour

|  |  |
| --- | --- |
| **Manufacturing overhead applied to Job Z77W** |  |
| **Number of hours for the job** | 370 machine-hours |
| **Predetermined overhead rate** | $43.99 per machine-hour |
| **Manufacturing overhead applied to the job** | $16,276.30 |

43) A

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $2,836,500 ÷ 75,000 machine-hours = $37.82 per machine-hour

|  |  |
| --- | --- |
| **Manufacturing overhead applied to Job Z77W** |  |
| **Number of hours for the job** | 410 machine-hours |
| **Predetermined overhead rate** | $37.82 per machine-hour |
| **Manufacturing overhead applied to the job** | $15,506.20 |

44) B

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $2,836,500 ÷ 75,000 machine-hours = $37.82 per machine-hour

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $2,836,500 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $37.82 per machine-hour |
| **Actual hours** | 59,000 machine-hours |
| **Manufacturing overhead applied to jobs** | $2,231,380 |
| **Cost of unused capacity** | $605,120 |

45) C

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = $2,301,530 ÷ 61,000 machine-hours = $37.73 per machine-hour

46) C

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = $4,130,340 ÷ 69,000 machine-hours = $59.86 per machine-hour

47) D

Manufacturing overhead applied = Predetermined overhead rate × Actual amount of the allocation base = $5.85 per machine-hour × 300 machine-hours = $1,755.00

48) D

Manufacturing overhead applied = Predetermined overhead rate × Actual amount of the allocation base = $59.86 per machine-hour × 470 machine-hours = $28,134.20

49) C

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $4,130,340 ÷ 82,000 machine-hours = $50.37 per machine-hour

50) D

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $1,223,040 ÷ 78,000 machine-hours = $15.68 per machine-hour  
 Manufacturing overhead applied = Predetermined overhead rate × Actual amount of the allocation base= $15.68 per machine-hour × 390 machine-hours = $6,115.20

51) D

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $4,130,340 ÷ 82,000 machine-hours = $50.37 per machine-hour  
 Manufacturing overhead applied = Predetermined overhead rate × Actual amount of the allocation base = $50.37 per machine-hour × 470 machine-hours = $23,673.90

52) D

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $2,508,000 ÷ 76,000 machine-hours = $33.00 per machine-hour

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $2,508,000 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $33.00 per machine-hour |
| **Actual hours** | 71,000 machine-hours |
| **Manufacturing overhead applied to jobs** | $2,343,000 |
| **Cost of unused capacity** | $165,000 |

53) D

Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $4,130,340 ÷ 82,000 machine-hours = $50.37 per machine-hour

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $4,130,340 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $50.37 per machine-hour |
| **Actual hours** | 72,400 machine-hours |
| **Manufacturing overhead applied to jobs** | $3,646,788 |
| **Cost of unused capacity** | $483,552 |

54) a. Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $6,400 ÷ 10,000 machine-hours = $0.64 per machine-hour  
 b. Manufacturing overhead applied to Job L77S

|  |  |
| --- | --- |
| **Number of hours for the job** | 220 machine-hours |
| **Predetermined overhead rate** | $0.64 per machine-hour |
| **Manufacturing overhead applied to the job** | $140.80 |

c.

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $6,400 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $0.64 per machine-hour |
| **Actual hours** | 8,700 machine-hours |
| **Manufacturing overhead applied to jobs** | $5,568 |
| **Cost of unused capacity** | $832 |

55) a.  
 Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $734,160 ÷ 46,000 machine-hours = $15.96 per machine-hour  
 b.

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $734,160 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $15.96 per machine-hour |
| **Actual hours** | 43,000 machine-hours |
| **Manufacturing overhead applied to jobs** | $686,280 |
| **Cost of unused capacity** | $47,880 |

56) Predetermined overhead rate = Estimated total manufacturing overhead at capacity ÷ Estimated total amount of the allocation base at capacity = $377,400 ÷ 37,000 machine-hours = $10.20 per machine-hour

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $377,400 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $10.20 per machine-hour |
| **Actual hours** | 34,700 machine-hours |
| **Manufacturing overhead applied to jobs** | $353,940 |
| **Cost of unused capacity** | $23,460 |

57) a.  
 Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $5,572,320 ÷ 76,000 machine-hours = $73.32 per machine-hour  
 b.

|  |  |
| --- | --- |
| **Manufacturing overhead applied to Job Q58A** |  |
| **Number of hours for the job** | 130 machine-hours |
| **Predetermined overhead rate** | $73.32 per machine-hour |
| **Manufacturing overhead applied to the job** | $9,531.60 |

c.  
 Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $5,572,320 ÷ 94,000 machine-hours = $59.28 per machine-hour  
 d.

|  |  |
| --- | --- |
| **Manufacturing overhead applied to Job Q58A** |  |
| **Number of hours for the job** | 130 machine-hours |
| **Predetermined overhead rate** | $59.28 per machine-hour |
| **Manufacturing overhead applied to the job** | $7,706.40 |

e.

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $5,572,320 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $59.28 per machine-hour |
| **Actual hours** | 82,800 machine-hours |
| **Manufacturing overhead applied to jobs** | $4,908,384 |
| **Cost of unused capacity** | $663,936 |

58) a.  
 Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = $43,200 ÷ 15,000 machine-hours = $2.88 per machine-hour  
 b.  
 Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = $43,200 ÷ 18,000 machine-hours = $2.40 per machine-hour

|  |  |
| --- | --- |
| **Actual manufacturing overhead cost incurred** | $43,200 |
| **Manufacturing overhead applied to jobs:** |  |
| **Predetermined overhead rate** | $2.40 per machine-hour |
| **Actual hours** | 15,800 machine-hours |
| **Manufacturing overhead applied to jobs** | $37,920 |
| **Cost of unused capacity** | $5,280 |