CHAPTER 23 -

TB MC Qu. 23-125 (Algo) Weng CPAs charges for their...

Weng CPAs charges for their services based on the following:

|  |  |  |
| --- | --- | --- |
| **Labor rate** | $ 180 | per hour |
| **Materials markup** | 30% |  |

Using time and materials pricing, what is the total price for services requiring 8 labor hours and $70 of materials?

$1,531.

$1,671.

$1,461.

$1,510.

$1,571.

TB MC Qu. 23-125 (Algo) Weng CPAs charges for their...

Weng CPAs charges for their services based on the following:

|  |  |  |
| --- | --- | --- |
| **Labor rate** | $ 180 | per hour |
| **Materials markup** | 30% |  |

Using time and materials pricing, what is the total price for services requiring 8 labor hours and $70 of materials?

**$1,531.**

$1,671.

$1,461.

$1,510.

$1,571.

Total price = Labor + Materials + Materials markup  
($180 × 8) + $70 + ($70 × 30%) = $1,531

TB MC Qu. 23-124 (Algo) Shale Remodeling uses time...

Shale Remodeling uses time and materials pricing. It reports the following information:

|  |  |  |
| --- | --- | --- |
| **Direct labor rate** | $ 155 | per DLH |
| **Non-materials-related overhead** | $ 125 | per DLH |
| **Materials-related overhead** | 10% | of direct materials cost |
| **Target profit margin (both conversion and direct materials)** | 20% |  |

What price should the company quote for a job requiring four direct labor hours and $580 in materials?

$1,518.

$1,924.

$1,696.

$1,750.

$2,098.

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

TB MC Qu. 23-124 (Algo) Shale Remodeling uses time...

Shale Remodeling uses time and materials pricing. It reports the following information:

|  |  |  |
| --- | --- | --- |
| **Direct labor rate** | $ 155 | per DLH |
| **Non-materials-related overhead** | $ 125 | per DLH |
| **Materials-related overhead** | 10% | of direct materials cost |
| **Target profit margin (both conversion and direct materials)** | 20% |  |

What price should the company quote for a job requiring four direct labor hours and $580 in materials?

$1,518.

$1,924.

$1,696.

$1,750.

$2,098.

|  |  |
| --- | --- |
| **Time and Materials Price Quote** |  |
| **Direct labor ($336\* × 4 hours)** | $ 1,344 |
| **Direct materials** | 580 |
| **Materials markup ($580 × 30%)** | 174 |
| **Time and materials price** | $ 2,098 |

**\*($155 + $125) × 120%**

TB MC Qu. 23-123 (Static) Shale Remodeling uses time...

Shale Remodeling uses time and materials pricing. It reports the following information:

|  |  |  |
| --- | --- | --- |
| **Direct labor rate** | $ 60 | per DLH |
| **Non-materials-related overhead** | $ 30 | per DLH |
| **Materials-related overhead** | 10% | of direct materials cost |
| **Target profit margin (both conversion and direct materials)** | 20% |  |

The materials markup percentage is:

10%.

15%.

20%.

30%.

40%.

TB MC Qu. 23-123 (Static) Shale Remodeling uses time...

Shale Remodeling uses time and materials pricing. It reports the following information:

|  |  |  |
| --- | --- | --- |
| **Direct labor rate** | $ 60 | per DLH |
| **Non-materials-related overhead** | $ 30 | per DLH |
| **Materials-related overhead** | 10% | of direct materials cost |
| **Target profit margin (both conversion and direct materials)** | 20% |  |

The materials markup percentage is:

10%.

15%.

20%.

**30%.**

40%.

|  |  |
| --- | --- |
| **Materials markup per dollar of direct materials cost** | |
| **Materials-related overhead** | 10% |
| **Target profit margin** | 20% |
| **Materials markup** | 30% |

TB MC Qu. 23-122 (Algo) Shale Remodeling uses...

Shale Remodeling uses time and materials pricing. It reports the following information:

|  |  |  |
| --- | --- | --- |
| **Direct labor rate** | $ 90 | per DLH |
| **Non-materials-related overhead** | $ 60 | per DLH |
| **Materials-related overhead** | 16% | of direct materials cost |
| **Target profit margin (both conversion and direct materials)** | 20% |  |

The time charger per hour of direct labor is:

$144.

$180.

$120.

$189.

$184.

TB MC Qu. 23-122 (Algo) Shale Remodeling uses...

Shale Remodeling uses time and materials pricing. It reports the following information:

|  |  |  |
| --- | --- | --- |
| **Direct labor rate** | $ 90 | per DLH |
| **Non-materials-related overhead** | $ 60 | per DLH |
| **Materials-related overhead** | 16% | of direct materials cost |
| **Target profit margin (both conversion and direct materials)** | 20% |  |

The time charger per hour of direct labor is:

$144.

$180.

$120.

$189.

$184.

|  |  |
| --- | --- |
| **Time charge per hour of direct labor** |  |
| **Direct labor rate per direct labor hour** | $ 90 |
| **Non-materials related overhead per direct labor hour** | 60 |
| **Total hourly conversion cost** | $ 150 |
| **Target profit ($150 × 20%)** | 30 |
| **Time charge per hour of direct labor** | $ 180 |

TB MC Qu. 23-121 (Static) Aven Salon charges...

Aven Salon charges for their services based on the following:

|  |  |  |
| --- | --- | --- |
| **Direct labor rate** | $ 90 | per hour |
| **Materials markup** | 40% |  |

Using time and materials pricing, what is the total price for services requiring 4 direct labor hours and $150 of materials?

$510.

$420.

$600.

$570.

$360.

TB MC Qu. 23-121 (Static) Aven Salon charges...

Aven Salon charges for their services based on the following:

|  |  |  |
| --- | --- | --- |
| **Direct labor rate** | $ 90 | per hour |
| **Materials markup** | 40% |  |

Using time and materials pricing, what is the total price for services requiring 4 direct labor hours and $150 of materials?

$510.

$420.

$600.

$570.

$360.

Total price = Labor + Materials + Materials markup  
($90 × 4) + $150 + ($150 × 40%) = $570

TB MC Qu. 23-118 (Static) Yelk Garage reports...

Yelk Garage reports the following information:

|  |  |  |
| --- | --- | --- |
| **Direct labor rate** | $ 100 | per DLH |
| **Non-materials-related overhead** | $ 60 | per DLH |
| **Materials-related overhead** | 7% | of direct materials cost |
| **Target profit margin (on both conversion and direct materials)** | 30% |  |

Determine Yelk’s time charge per hour of direct labor.

$130.

$178.

$190.

$160.

$208.

TB MC Qu. 23-118 (Static) Yelk Garage reports...

Yelk Garage reports the following information:

|  |  |  |
| --- | --- | --- |
| **Direct labor rate** | $ 100 | per DLH |
| **Non-materials-related overhead** | $ 60 | per DLH |
| **Materials-related overhead** | 7% | of direct materials cost |
| **Target profit margin (on both conversion and direct materials)** | 30% |  |

Determine Yelk’s time charge per hour of direct labor.

$130.

$178.

$190.

$160.

$208.

|  |  |
| --- | --- |
| **Time charge per hour of direct labor** |  |
| **Direct labor rate per direct labor hour** | $ 100 |
| **Non-materials related overhead per direct labor hour** | 60 |
| **Total hourly conversion cost** | 160 |
| **Target profit ($160 × 30%)** | 48 |
| **Time charge per hour of direct labor** | $ 208 |

TB MC Qu. 23-117 (Static) Hordel Company needs to determine...

Hordel Company needs to determine a markup for a new product. Hordel expects to sell 5,000 units and wants a target profit of $82 per unit. Additional information is as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable Costs per Unit** |  | **Fixed Costs (total)** |  |
| **Direct materials** | $ 19 | **Overhead** | $ 42,000 |
| **Direct labor** | 40 | **General and administrative** | 31,000 |
| **Overhead** | 20 |  |  |
| **General and administrative** | 21 |  |  |

Using the variable cost method, what markup percentage to variable cost should be used?

80.1%

98.20%

94.1%

91.7%

96.6%

TB MC Qu. 23-117 (Static) Hordel Company needs to determine...

Hordel Company needs to determine a markup for a new product. Hordel expects to sell 5,000 units and wants a target profit of $82 per unit. Additional information is as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable Costs per Unit** |  | **Fixed Costs (total)** |  |
| **Direct materials** | $ 19 | **Overhead** | $ 42,000 |
| **Direct labor** | 40 | **General and administrative** | 31,000 |
| **Overhead** | 20 |  |  |
| **General and administrative** | 21 |  |  |

Using the variable cost method, what markup percentage to variable cost should be used?

80.1%

98.20%

94.1%

91.7%

96.6%

|  |  |
| --- | --- |
| **Target profit (5,000 × $82)** | $ 410,000 |
| **Fixed costs** |  |
| **Overhead** | 42,000 |
| **General and administrative** | 31,000 |
| **Target profit + Total fixed costs** | $ 483,000 |
| **Variable cost per unit ($19 + $40 + $20 + 21)** | $ 100 |
| **Units to produce and sell** | 5,000 |
| **Total variable costs** | $ 500,000 |
| **Markup percentage ($483,000/$500,000)** | 96.6% |

TB MC Qu. 23-115 (Algo) Jaybird Company operates in a highly...

Jaybird Company operates in a highly competitive market where the market price for its product is $115 per unit. Jaybird desires a 30% profit per unit. Jaybird expects to sell 5,000 units. Additional information is as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable Costs per Unit** |  | **Fixed Costs (total)** |  |
| **Direct materials** | $ 18 | **Overhead** | $ 45,000 |
| **Direct labor** | 19 | **General and administrative** | 18,000 |
| **Overhead** | 17 |  |  |
| **General and administrative** | 23 |  |  |

To achieve the target cost per unit, Jaybird must reduce total expenses by how much?

$47,000

$36,000

$55,500

$52,500

$45,500

TB MC Qu. 23-115 (Algo) Jaybird Company operates in a highly...

Jaybird Company operates in a highly competitive market where the market price for its product is $115 per unit. Jaybird desires a 30% profit per unit. Jaybird expects to sell 5,000 units. Additional information is as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable Costs per Unit** |  | **Fixed Costs (total)** |  |
| **Direct materials** | $ 18 | **Overhead** | $ 45,000 |
| **Direct labor** | 19 | **General and administrative** | 18,000 |
| **Overhead** | 17 |  |  |
| **General and administrative** | 23 |  |  |

To achieve the target cost per unit, Jaybird must reduce total expenses by how much?

$47,000

$36,000

$55,500

$52,500

$45,500

Target cost = Expected selling price − desired profit  
$115 − ($115 × 30%) = $80.50 per unit  
$80.50 × 5,000 units = $402,500 total cost

Total costs = Product costs + Administrative costs  
(($18 + $19 + $17) × 5,000) + $45,000 + ($23 × 5,000) + 18,000 = $448,000

Excess costs needing to be reduced = Current total cost − Target total cost  
$448,000 − $402,500 = $45,500

TB MC Qu. 23-114 (Algo) Galla Incorporated is a competitive product...

Galla Incorporated is a competitive product market. The expected selling price is $385 per unit, and Galla’s target profit is 20% of the selling price. Using the target cost method, the highest that Galla’s cost per unit can be is:

$244.

$228.

$300.

$77.

$308.

TB MC Qu. 23-114 (Algo) Galla Incorporated is a competitive product...

Galla Incorporated is a competitive product market. The expected selling price is $385 per unit, and Galla’s target profit is 20% of the selling price. Using the target cost method, the highest that Galla’s cost per unit can be is:

$244.

$228.

$300.

$77.

$308.

Target cost = Expected selling price − target profit  
= $385 − ($385 × 20%) = $308

TB MC Qu. 23-113 (Algo) Galla Incorporated needs to determine...

Galla Incorporated needs to determine a price for a new product. Galla desires a 25% markup on the total cost of the product. Galla expects to sell 5,000 units. Additional information is as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable Costs per Unit** |  | **Fixed Costs (total)** |  |
| **Direct materials** | $ 12 | **Overhead** | $ 45,000 |
| **Direct labor** | 13 | **General and administrative** | 18,000 |
| **Overhead** | 11 |  |  |
| **General and administrative** | 17 |  |  |

Using the total cost method what price should Galla charge?

$66.25

$82.00

$77.50

$70.75

$65.60

TB MC Qu. 23-113 (Algo) Galla Incorporated needs to determine...

Galla Incorporated needs to determine a price for a new product. Galla desires a 25% markup on the total cost of the product. Galla expects to sell 5,000 units. Additional information is as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable Costs per Unit** |  | **Fixed Costs (total)** |  |
| **Direct materials** | $ 12 | **Overhead** | $ 45,000 |
| **Direct labor** | 13 | **General and administrative** | 18,000 |
| **Overhead** | 11 |  |  |
| **General and administrative** | 17 |  |  |

Using the total cost method what price should Galla charge?

$66.25

$82.00

$77.50

$70.75

$65.60

Total costs = Product costs + Administrative costs  
(($12 + $13 + $11) × 5,000) + $45,000 + ($17 × 5,000) + 18,000 = $328,000

Total cost per unit = Total costs/Total units expected to be sold  
$328,000/5,000 = $65.60

Mark-up per unit = Total cost per unit × Markup percentage  
$65.60 × 25% = $16.40

Selling price per unit = Total cost per unit + Markup per unit  
$65.60 + $16.40 = $82.00

TB MC Qu. 23-112 (Algo) Pinkin Incorporated needs to determine a price...

Pinkin Incorporated needs to determine a price for a new phone model. Pinkin desires a 25% markup on the total cost of the phone. Pinkin expects to sell 30,000 phones. Additional information is as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable Costs per Unit** |  | **Fixed Costs (total)** |  |
| **Direct materials** | $ 34 | **Overhead** | $ 85,000 |
| **Direct labor** | 59 | **General and administrative** | 65,000 |
| **Overhead** | 39 |  |  |
| **General and administrative** | 69 |  |  |

Using the total cost method what price should Pinkin charge?

$251.10

$257.50

$225.10

$237.50

$256.25

TB MC Qu. 23-112 (Algo) Pinkin Incorporated needs to determine a price...

Pinkin Incorporated needs to determine a price for a new phone model. Pinkin desires a 25% markup on the total cost of the phone. Pinkin expects to sell 30,000 phones. Additional information is as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable Costs per Unit** |  | **Fixed Costs (total)** |  |
| **Direct materials** | $ 34 | **Overhead** | $ 85,000 |
| **Direct labor** | 59 | **General and administrative** | 65,000 |
| **Overhead** | 39 |  |  |
| **General and administrative** | 69 |  |  |

Using the total cost method what price should Pinkin charge?

$251.10

$257.50

$225.10

$237.50

$256.25

|  |  |  |  |
| --- | --- | --- | --- |
| **Product costs** |  |  |  |
| **Direct materials ($34 × 30,000)** | $ 1,020,000 |  |  |
| **Direct labor ($59 × 30,000)** | 1,770,000 |  |  |
| **Variable overhead ($39 × 30,000)** | 1,170,000 |  |  |
| **Fixed overhead** | 85,000 | $ 4,045,000 |  |
| **Selling, general, and administrative** |  |  |  |
| **Variable ($69 × 30,000)** | 2,070,000 |  |  |
| **Fixed** | 65,000 | 2,135,000 |  |
| **Total costs** |  | $ 6,180,000 |  |
| **Units to be produced and sold** |  | 30,000 | units |
| **Total cost per unit** |  | $ 206 |  |

Selling price per unit = $206 × 125% = $257.50

 TB MC Qu. 23-111 (Static) Sammy Company is considering...

Sammy Company is considering eliminating its Commercial division. The company allocates fixed costs based on division sales. If the Commercial division is dropped, all of its variable costs are avoidable, and $100,000 of its fixed costs are avoidable. The impact on Sammy’s operating income from eliminating the commercial division would be:

|  | **Garden** | **Farm** | **Commercial** |
| --- | --- | --- | --- |
| **Sales** | $ 678,000 | $ 920,000 | $ 692,000 |
| **Variable costs** | 372,900 | 414,000 | 649,800 |
| **Contribution margin** | 305,100 | 506,000 | 42,200 |
| **Fixed costs** | 247,200 | 335,500 | 252,400 |
| **Net income (loss)** | 57,900 | 170,500 | (210,200) |

$10,200 decrease

$45,000 increase

$57,800 increase

$15,000 increase

$57,800 decrease

TB MC Qu. 23-111 (Static) Sammy Company is considering...

Sammy Company is considering eliminating its Commercial division. The company allocates fixed costs based on division sales. If the Commercial division is dropped, all of its variable costs are avoidable, and $100,000 of its fixed costs are avoidable. The impact on Sammy’s operating income from eliminating the commercial division would be:

|  | **Garden** | **Farm** | **Commercial** |
| --- | --- | --- | --- |
| **Sales** | $ 678,000 | $ 920,000 | $ 692,000 |
| **Variable costs** | 372,900 | 414,000 | 649,800 |
| **Contribution margin** | 305,100 | 506,000 | 42,200 |
| **Fixed costs** | 247,200 | 335,500 | 252,400 |
| **Net income (loss)** | 57,900 | 170,500 | (210,200) |

$10,200 decrease

$45,000 increase

**$57,800 increase**

$15,000 increase

$57,800 decrease

| **Segment Elimination Analysis** | **Continue** | **Eliminate** | **Income Increase(Decrease)** |
| --- | --- | --- | --- |
| Sales | $ 692,000 |  |  |
| Variable costs | 649,800 |  |  |
| Contribution margin | 42,200 |  |  |
| Fixed costs | 252,400 | $ (152,400) |  |
| Income (loss) | $ (210,200) | $ (152,400) | $ 57,800 |

TB MC Qu. 23-106 (Static) JK Company produces two products,...

JK Company produces two products, Plush and Supreme. JK Company can sell all of the units it can produce for both products, but it has limited production capacity. Machine hours per unit are 0.25 hours for Plush and 0.50 hours for Supreme, and the company has 2,000 machine hours available. Contribution margin per unit is $214 for Plush and $300 for Supreme. What is the total contribution margin if JK chooses the most profitable sales mix?

$824,000.

$1,424,000.

$1,648,000.

$1,712,000

$2,400,000.

TB MC Qu. 23-106 (Static) JK Company produces two products,...

JK Company produces two products, Plush and Supreme. JK Company can sell all of the units it can produce for both products, but it has limited production capacity. Machine hours per unit are 0.25 hours for Plush and 0.50 hours for Supreme, and the company has 2,000 machine hours available. Contribution margin per unit is $214 for Plush and $300 for Supreme. What is the total contribution margin if JK chooses the most profitable sales mix?

$824,000.

$1,424,000.

$1,648,000.

$1,712,000

$2,400,000.

|  | **Plush** | **Supreme** |
| --- | --- | --- |
| **Contribution margin per unit** | $ 214.00 | $ 300.00 |
| **Machine hours per unit** | 0.25 | 0.50 |
| **Contribution margin per machine hour** | $ 856.00 | $ 600.00 |

Because Plush yields the higher contribution margin per hour, all production should be devoted to producing Plush.  
  
Total contribution margin: 2,000 hours × 4 units per hour = 8,000 units × $214 CM per unit = $1,712,000.

TB MC Qu. 23-104 (Algo) Rosie’s Company has three products,...

Rosie’s Company has three products, P1, P2, and P3. The maximum Rosie’s can sell is 66,800 units of P1, 25,800 units of P2, and 13,800 units of P3. Rosie’s has limited production capacity of 180,000 machine hours. Machine hours per unit are as follows: P1, 1 hour; P2, 2 hours; P3, 4 hours. Contribution margin per unit is $5 for P1, $15 for P2, and $25 for P3. What is the most profitable sales mix for Rosie’s Company?

73,200 P1, 25,800 P2, 13,800 P3.

12,420 P1, 25,800 P2, 73,200 P3.

73,200 P1, 83,000 P2, 73,200 P3.

18,060 P1, 83,000 P2, 73,200 P3.

12,420 P1, 26,800 P2, 12,420 P3.

TB MC Qu. 23-104 (Algo) Rosie’s Company has three products,...

Rosie’s Company has three products, P1, P2, and P3. The **max**imum Rosie’s can sell is **66,800 units of P1, 25,800 units of P2, and 13,800 units of P3**. Rosie’s has limited production capacity of **180,000 machine hours**. Machine hours per unit are as follows: P1, 1 hour; P2, 2 hours; P3, 4 hours. Contribution margin per unit is $5 for P1, $15 for P2, and $25 for P3. What is the most profitable sales mix for Rosie’s Company?

73,200 P1, 25,800 P2, 13,800 P3.

12,420 P1, 25,800 P2, 73,200 P3.

73,200 P1, 83,000 P2, 73,200 P3.

18,060 P1, 83,000 P2, 73,200 P3.

12,420 P1, 26,800 P2, 12,420 P3.

|  | **P1** | **P2** | **P3** |
| --- | --- | --- | --- |
| **Contribution margin per unit** | $ 5.00 | $ 15.00 | $ 25.00 |
| **Machine hours per unit** | 1 | 2 | 4 |
| **Contribution margin per production hour** | $ 5.00 | $ 7.50 | $ 6.25 |

P2 has the highest CM per machine hour, so Rosie’s would use 51,600 machine hours for P2 and produce its **maximum sales level of 25,800 units**.

This leaves 128,400 machine hours for P3 which has the next highest CM per hour. 55,200 machine hours are needed to produce the **maximum sales level of 73,200 units of P3.**

The remaining 73,200 machine hours of capacity are used to produce P1. Rosie can produce 73,200 units of P1.

TB MC Qu. 23-103 (Static) Bricktan Incorporated makes three products,...

Bricktan Incorporated makes three products, Basic, Classic, and Deluxe. The maximum Bricktan can sell is 75,000 units of Basic, 420,000 units of Classic, and 120,000 units of Deluxe. Bricktan has limited production capacity of 900,000 machine hours. Machine hours per unit are as follows: Basic, 1 hour; Classic, 1.25 hours; and Deluxe 2.5 hours. Contribution margin per unit is $15 for Basic, $25 for Classic, and $55 for Deluxe. What is the total contribution margin if Bricktan chooses the most profitable sales mix?

$8,000,000.

$9,700,000.

$15,500,000.

$18,225,000.

$12,800,000.

TB MC Qu. 23-103 (Static) Bricktan Incorporated makes three products,...

Bricktan Incorporated makes three products, Basic, Classic, and Deluxe. The maximum Bricktan can sell is 75,000 units of Basic, 420,000 units of Classic, and 120,000 units of Deluxe. Bricktan has limited production capacity of 900,000 machine hours. Machine hours per unit are as follows: Basic, 1 hour; Classic, 1.25 hours; and Deluxe 2.5 hours. Contribution margin per unit is $15 for Basic, $25 for Classic, and $55 for Deluxe. What is the total contribution margin if Bricktan chooses the most profitable sales mix?

$8,000,000.

$9,700,000.

$15,500,000.

$18,225,000.

$12,800,000.

|  | **Basic** | **Classic** | **Deluxe** |
| --- | --- | --- | --- |
| **Contribution margin per unit** | $ 15.00 | $ 25.00 | $ 55.00 |
| **Machine hours per unit** | 1 | 1.25 | 2.5 |
| **Contribution margin per machine hour** | $ 15.00 | $ 20.00 | $ 22.00 |
| **Maximum number of units that can be sold** | 75,000 | 420,000 | 120,000 |

Deluxe 120,000 units × $55 = $6,600,000  
Classic 420,000 units × $25 = $10,500,000  
Basic 75,000 units × $15 = $1,125,000  
Total $18,225,000  
  
*(Note Hours are assigned to products with the highest CM per hour first, then second highest CM per hour, and remaining production hours are used for the product with the lowest CM per hour. Deluxe uses 300,000 hours and Classic uses 525,000 hours, leaving 75,000 hours for Basic).*

TB MC Qu. 23-101 (Static) Logan Company produces two products,...

Logan Company produces two products, Standard and Premier. Logan can sell all of the Standard and Premier products it can produce, but it has limited production capacity. Machine hours per unit for Standard is 1 hour and for Premier is 1.5 hours. The company has 216,000 machine hours available. Contribution margin per unit is $24 for Standard and $30 for Premier. What is the total contribution margin if Logan chooses the most profitable sales mix?

$7,280,000.

$8,800,000.

$4,960,000.

$5,184,000.

$6,704,000.

TB MC Qu. 23-101 (Static) Logan Company produces two products,...

Logan Company produces two products, Standard and Premier. Logan can sell all of the Standard and Premier products it can produce, but it has limited production capacity. Machine hours per unit for Standard is 1 hour and for Premier is 1.5 hours. The company has 216,000 machine hours available. Contribution margin per unit is $24 for Standard and $30 for Premier. What is the total contribution margin if Logan chooses the most profitable sales mix?

$7,280,000.

$8,800,000.

$4,960,000.

$5,184,000.

$6,704,000.

|  | **Standard** | **Premier** |
| --- | --- | --- |
| **Contribution margin per unit** | $ 24.00 | $ 30.00 |
| **Machine hours per unit** | 1.0 | 1.5 |
| **Contribution margin per machine hour** | $ 24.00 | $ 20.00 |

Because the standard product yields the higher contribution margin per hour, all production should be devoted to producing the standard product.  
  
Total standard units: 216,000 hours / 1 machine hour per unit = 216,000 units  
  
Total contribution margin: 216,000 units × $24 contribution margin per unit = $5,184,000

TB MC Qu. 23-100 (Algo) Logan Company produces two...

Logan Company produces two products, Standard and Premier. Logan can sell all of the Standard and Premier products it can produce, but it has limited production capacity. Machine hours per unit for Standard is 1 hour and for Premier is 1.5 hours. The company has 219,240 machine hours available. Contribution margin per unit is $24.00 for Standard and $30.00 for Premier. What is the most profitable sales mix for Logan Company?

0 Standard units and 146,160 Premier units.

182,700 Standard units and 24,360 Premier units.

219,240 Standard units and 0 Premier units.

36,540 Standard units and 121,800 Premier units.

121,800 Standard units and 64,960 Premier units.

TB MC Qu. 23-100 (Algo) Logan Company produces two...

Logan Company produces two products, Standard and Premier. Logan can sell all of the Standard and Premier products it can produce, but it has limited production capacity. Machine hours per unit for Standard is 1 hour and for Premier is 1.5 hours. The company has 219,240 machine hours available. Contribution margin per unit is $24.00 for Standard and $30.00 for Premier. What is the most profitable sales mix for Logan Company?

0 Standard units and 146,160 Premier units.

182,700 Standard units and 24,360 Premier units.

219,240 Standard units and 0 Premier units.

36,540 Standard units and 121,800 Premier units.

121,800 Standard units and 64,960 Premier units.

|  | **Standard** | **Premier** |
| --- | --- | --- |
| **Contribution margin per unit** | $ 24.00 | $ 30.00 |
| **Machine hours per unit** | 1.0 | 1.5 |
| **Contribution margin per machine hour** | $ 24.00 | $ 20.00 |

Because Standard yields the higher contribution margin per machine hour, all machine hours should be devoted to producing standard.

TB MC Qu. 23-99 (Static) Wesley Company makes bowling balls...

Wesley Company makes bowling balls and uses the total cost method in setting product prices. Its costs for producing 10,000 bowling balls follow. The company targets a 12.5% markup on total cost. The dollar *markup* per unit is:

| **Variable Costs per Unit** |  | **Fixed Costs (total)** |  |
| --- | --- | --- | --- |
| **Direct materials** | $ 50.00 | **Overhead** | $ 235,000 |
| **Direct labor** | 12.50 | **Selling, general, and administrative** | 215,000 |
| **Overhead** | 10.00 |  |  |
| **Selling, general, and administrative** | 2.50 |  |  |

$9.38.

$5.63.

$16.88.

$13.75.

$15.00.

TB MC Qu. 23-99 (Static) Wesley Company makes bowling balls...

Wesley Company makes bowling balls and uses the total cost method in setting product prices. Its costs for producing 10,000 bowling balls follow. The company targets a 12.5% markup on total cost. The dollar *markup* per unit is:

| **Variable Costs per Unit** |  | **Fixed Costs (total)** |  |
| --- | --- | --- | --- |
| **Direct materials** | $ 50.00 | **Overhead** | $ 235,000 |
| **Direct labor** | 12.50 | **Selling, general, and administrative** | 215,000 |
| **Overhead** | 10.00 |  |  |
| **Selling, general, and administrative** | 2.50 |  |  |

$9.38.

$5.63.

$16.88.

$13.75.

$15.00.

|  |  |  |  |
| --- | --- | --- | --- |
| **Product costs** |  |  |  |
| **Direct materials ($50.00 × 10,000)** | $ 500,000 |  |  |
| **Direct labor ($12.50 × 10,000)** | 125,000 |  |  |
| **Variable overhead ($10.00 × 10,000)** | 100,000 |  |  |
| **Fixed overhead** | 235,000 | $ 960,000 |  |
| **Selling, general, and administrative costs** |  |  |  |
| **Variable costs ($2.50 × 10,000)** | 25,000 |  |  |
| **Fixed selling, general, and administrative** | 215,000 | 240,000 |  |
| **Total costs** |  | $ 1,200,000 |  |
| **Units to be produced and sold** |  | 10,000 | units |
| **Total cost per unit** |  | $ 120 | per unit |

|  |  |
| --- | --- |
| **Total cost per unit** | $ 120.00 |
| **Markup percentage** | × 12.5% |
| **Markup per unit** | $ 15.00 |

TB MC Qu. 23-97 (Static) Sooky has a spotter truck with a book...

Sooky has a spotter truck with a book value of $40,000 and a remaining useful life of five years. At the end of the five years the spotter truck will have a zero-salvage value. iSooky can purchase a new spotter truck for $120,000 and receive $31,000 in return for trading in its old spotter truck. The old spotter truck has variable manufacturing costs of $75,000 per year. The new spotter truck will reduce variable manufacturing costs by $25,000 per year over the five-year life of the new spotter truck. The total increase or decrease in income by replacing the current spotter truck with the new truck is:

$31,000 decrease

$31,000 increase

$36,000 decrease

$120,000 decrease

$36,000 increase

TB MC Qu. 23-97 (Static) Sooky has a spotter truck with a book...

Sooky has a spotter truck with a book value of $40,000 and a remaining useful life of five years. At the end of the five years the spotter truck will have a zero-salvage value. iSooky can purchase a new spotter truck for $120,000 and receive $31,000 in return for trading in its old spotter truck. The old spotter truck has variable manufacturing costs of $75,000 per year. The new spotter truck will reduce variable manufacturing costs by $25,000 per year over the five-year life of the new spotter truck. The total increase or decrease in income by replacing the current spotter truck with the new truck is:

$31,000 decrease

$31,000 increase

$36,000 decrease

$120,000 decrease

$36,000 increase

| **Keep or Replace Analysis** | **Keep** | **Replace** | **Income Increase(Decrease)** |
| --- | --- | --- | --- |
| Revenues |  |  |  |
| Sale of existing machine |  | $ 31,000 |  |
| Costs |  |  |  |
| Purchase of new machine |  | (120,000) |  |
| Variable costs | $ (375,000) | (250,000) |  |
| Income (loss) | $ (375,000) | $ (339,000) | $ 36,000 |

TB MC Qu. 23-91 (Static) What decision rule should be followed when...

What decision rule should be followed when deciding if a business segment should be eliminated?

Segments generating a net loss should always be eliminated.

Segments with revenues that are more than avoidable expenses should be considered for elimination.

Segments with revenues that are more than unavoidable expenses should be considered for elimination.

Segments with revenues that are less than avoidable expenses should be considered for elimination.

Segments with revenues that are less than unavoidable expenses should be considered for elimination.

TB MC Qu. 23-91 (Static) What decision rule should be followed when...

What decision rule should be followed when deciding if a business segment should be eliminated?

Segments generating a net loss should always be eliminated.

Segments with revenues that are more than avoidable expenses should be considered for elimination.

Segments with revenues that are more than unavoidable expenses should be considered for elimination.

Segments with revenues that are less than avoidable expenses should be considered for elimination.

Segments with revenues that are less than unavoidable expenses should be considered for elimination.

TB MC Qu. 23-90 (Static) The Mad Hatter Company owns a machine that...

The Mad Hatter Company owns a machine that manufactures two types of chimney caps. Production time is 0.20 hours for cap A and 0.40 hours for cap B. The machine's capacity is 2,000 hours per year. Both products are sold to a single customer who has agreed to buy all of the company's output up to a maximum of 1,000 units of cap A and 6,000 units of cap B. Selling prices and variable costs per unit are shown below. Based on this information, what is Mad Hatter's most profitable sales mix?

|  | **Cap A** | **Cap B** |
| --- | --- | --- |
| **Selling price per unit** | $ 80 | $ 60 |
| **Variable costs per unit** | 53 | 42 |

10,000 units of cap A.

5,000 units of cap B.

1,000 units of cap A and 5,000 units of cap B.

1,000 units of cap A and 6,000 units of cap B.

1,000 units of cap A and 4,500 units of cap B.

TB MC Qu. 23-90 (Static) The Mad Hatter Company owns a machine that...

The Mad Hatter Company owns a machine that manufactures two types of chimney caps. Production time is **0.20 hours for cap A** and **0.40 hours for cap B**. The machine's capacity is 2,000 hours per year. Both products are sold to a single customer who has agreed to buy all of the company's output up to a **maximum of 1,000 units of cap A** and **6,000 units of cap B.** Selling prices and variable costs per unit are shown below. Based on this information, what is Mad Hatter's most profitable sales mix?

|  | **Cap A** | **Cap B** |
| --- | --- | --- |
| **Selling price per unit** | $ 80 | $ 60 |
| **Variable costs per unit** | 53 | 42 |

10,000 units of cap A.

5,000 units of cap B.

1,000 units of cap A and 5,000 units of cap B.

1,000 units of cap A and 6,000 units of cap B.

1,000 units of cap A and 4,500 units of cap B.

Cap A Hourly Contribution Margin: $80 − 53 = $27 × 5 units per hour = $135 Also $27 / .2 = contribution margin of 135 per machine hour.

Cap B Hourly Contribution Margin: $60 − 42 = $18 × 2.5 units per hour = $45

Also $18 / .4 = Contribution margin of $45 per machine hour

Make maximum Cap A units: 1,000 units/5 units per hour = 200 hours for 1,000 units

Use remaining hours for Cap B units: 2,000 − 200 = 1,800 hours remaining × 2.5 per hour = 4,500 units

TB MC Qu. 23-87 (Static) Derby Incorporated manufactures a product which...

Derby Incorporated manufactures a product which contains a small motor. The company has always purchased this motor from a supplier for $125 each. Derby recently upgraded its own manufacturing capabilities and now has enough excess capacity (including trained workers) to begin manufacturing the motor instead of buying it. The company prepared the following per unit cost projections of making the motor, assuming that overhead is allocated to the part at the normal predetermined overhead rate of 150% of direct labor cost.

|  |  |
| --- | --- |
| **Direct material** | $ 38 |
| **Direct labor** | 50 |
| **Overhead (fixed and variable)** | 75 |
| **Total** | $ 163 |

The required volume of output to produce the motors will not require any incremental fixed overhead. Incremental variable overhead cost is $21 per motor. What is the effect on income if Derby decides to make the motors?

Income will decrease by $16 per unit.

Income will increase by $16 per unit.

Income will increase by $23 per unit.

Income will decrease by $23 per unit.

Income will increase by $39 per unit.

TB MC Qu. 23-87 (Static) Derby Incorporated manufactures a product which...

Derby Incorporated manufactures a product which contains a small motor. The company has always purchased this motor from a supplier for $125 each. Derby recently upgraded its own manufacturing capabilities and now has enough excess capacity (including trained workers) to begin manufacturing the motor instead of buying it. The company prepared the following per unit cost projections of making the motor, assuming that overhead is allocated to the part at the normal predetermined overhead rate of 150% of direct labor cost.

|  |  |
| --- | --- |
| **Direct material** | $ 38 |
| **Direct labor** | 50 |
| **Overhead (fixed and variable)** | 75 |
| **Total** | $ 163 |

The required volume of output to produce the motors will not require any incremental fixed overhead. Incremental variable overhead cost is $21 per motor. What is the effect on income if Derby decides to make the motors?

Income will decrease by $16 per unit.

Income will increase by $16 per unit.

Income will increase by $23 per unit.

Income will decrease by $23 per unit.

Income will increase by $39 per unit.

Relevant costs: $38 + $50 + $21 = $109 per unit  
Effect on Income: $125 − $109 = $16 increase per unit

TB MC Qu. 23-86 (Static) Wade Company produces...

Wade Company produces a single product and has capacity to produce 240,000 units per month. Costs to produce its current monthly sales of 160,000 units follow:

|  | **Per Unit** | **Costs at 160,000 units** |
| --- | --- | --- |
| **Direct materials** | $ 25.00 | $ 4,000,000 |
| **Direct labor** | 58.00 | 9,280,000 |
| **Variable overhead** | 20.00 | 3,200,000 |
| **Fixed overhead** | 35.00 | 5,600,000 |
| **Fixed general and administrative** | 26.00 | 4,160,000 |
| **Totals** | $ 164.00 | $ 26,240,000 |

The normal selling price of the product is $200 per unit. A new customer offers to purchase 40,000 units for $150 per unit. If the special offer is accepted, there will be no additional fixed overhead and no additional fixed general and administrative costs. The special offer would not affect its normal sales. The income from the special offer would be:

$3,880,000.

$1,440,000.

$1,880,000.

$(560,000).

$2,250,000.

TB MC Qu. 23-86 (Static) Wade Company produces...

Wade Company produces a single product and has capacity to produce 240,000 units per month. Costs to produce its current monthly sales of 160,000 units follow:

|  | **Per Unit** | **Costs at 160,000 units** |
| --- | --- | --- |
| **Direct materials** | $ 25.00 | $ 4,000,000 |
| **Direct labor** | 58.00 | 9,280,000 |
| **Variable overhead** | 20.00 | 3,200,000 |
| **Fixed overhead** | 35.00 | 5,600,000 |
| **Fixed general and administrative** | 26.00 | 4,160,000 |
| **Totals** | $ 164.00 | $ 26,240,000 |

The normal selling price of the product is $200 per unit. A new customer offers to purchase 40,000 units for $150 per unit. If the special offer is accepted, there will be no additional fixed overhead and no additional fixed general and administrative costs. The special offer would not affect its normal sales. The income from the special offer would be:

$3,880,000.

$1,440,000.

$1,880,000.

$(560,000).

$2,250,000.

| **Special Offer Analysis** | **Per Unit** | **Total** |
| --- | --- | --- |
| Sales (40,000 units) | $ 150.00 | $ 6,000,000 |
| Variable costs |  |  |
| Direct materials | 25.00 | 1,000,000 |
| Direct labor | 58.00 | 2,320,000 |
| Variable overhead | 20.00 | 800,000 |
| Contribution margin | 47.00 | 1,880,000 |
| Fixed costs |  |  |
| Fixed overhead (incremental) |  |  |
| Fixed general and administrative (incremental) |  |  |
| Income | $ 47.00 | $ 1,880,000 |

Note: Left off on question number 103 (working towards #1) thus, next is # 102 to consider.