1. The Dropinsky Company's management wants to determine if Division Y should be eliminated. The following data are available (in thousands).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Segmented Income Statement | | | | |
|  | Division X | Division Y | Division Z | Total |
| Sales | $200 | $300 | $400 | $900 |
| Less variable costs | 80 | 150 | 160 | 390 |
| Contribution margin | $120 | $150 | $240 | $510 |
| Less direct fixed costs | 70 | 170 | 120 | 360 |
| Segment margin | $ 50 | ($ 20) | $120 | $150 |
| Less common fixed costs |  |  |  | 90 |
| Operating income |  |  |  | $ 60 |

a. Assuming all direct fixed costs of Division Y are avoidable, what would be the change in operating income if Division Y were eliminated?

b. Assuming one-half of the direct fixed costs of Division Y are avoidable, what would be the change in operating income if Division Y were eliminated.

2. Courtney Sinclaire is trying to rent a new bicycle. She has narrowed her choices to two lease arrangements,each with unique characteristics. Bike Superior would rent for $220 per year, and Bike Deluxe's annual rent would be $250. Bike Superior would need a new seat costing $35 and new racing tires costing $95. The old seat and tires could be sold for $30. Bike Deluxe is fully equipped but would need to be painted at a cost of $110. Maintenance and upkeep on both bikes would average $60 per year.

a. Identify the relevant data in this problem.

b. Prepare an incremental analysis for Courtney to aid her in this decision.

c. What decision should Courtney make?

. 3. The Big Bear Lumber Company is trying to decide whether to sell or process further rough-sawn lumber.

The joint cost of producing the rough-sawn lumber is $10,500. The following data are available:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Lumber Type** | **Number of Boards** | **Selling Price per Board** | | **Incremental Cost to Process Further** |
|  |  | **At Split-Off** | **After Additional Processing** |  |
| A | 2,000 | $ 8 | $12 | $7,000 |
| B | 1,000 | 16 | 20 | 6,000 |
| C | 500 | 25 | 30 | 1,000 |

a. What is the incremental effect, increase or (decrease), on operating income of processing the lumber further?

b. Which type of lumber should be processed further?

4.. On November 15, 20xx, The Cooper Co. received a special order for 6,000 three-wood golf club sets. These golf clubs will be marketed in Asia. Seto Imports, Inc., the purchasing company, wants the clubs bulk packaged and is willing to pay $72 per set for the clubs. The president of The Cooper Co. has gathered the following product costing information about the set of woods being discussed: direct materials (wood), $900 per 100 sets; direct materials (metal shafts), $1,200 per 100 sets; and direct materials (grips), $200 per 100 sets. Direct labor is $27 per set. Variable manufacturing costs are $19 per set, and fixed manufacturing costs are 20 percent of direct labor dollars. Variable selling expenses are $14 per set, and variable shipping costs are $9 per set. Fixed general and administrative costs are figured at 30 percent of direct labor dollars. Bulk shipping costs will total $10,000, thus eliminating both variable selling and variable shipping costs from consideration. The company did not expect this order and will reach planned production capacity for the year. However, there is enough plant capacity for the special order. Round answers to two decimal places.

a. Prepare an analysis for the president to use in deciding whether to accept or reject the offer by Seto Imports, Inc. What decision should be made?

b. What is the lowest possible price The Cooper Co. could charge per set of woods and still make a $12,000 profit on this order?

5. Sand Canyon Enterprises is analyzing its sales mix to find out if it is maximizing its profits. The company produces three similar items: X, Y, and Z. All three of these products are made with the same equipment, and maximum productive capacity measured in machine hours is now being used. Product line statistics are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
|  | X | Y | Z |
| Current production and sales (units) | 105,000 | 158,000 | 95,000 |
| Machine hours per unit | 10 | 5 | 13 |
| Selling price per unit | $63 | $48 | $84 |
| Unit variable cost | $33 | $26 | $49 |
| Unit variable selling cost | $17 | $13 | $16 |

Determine whether the existing sales mix is the most profitable one possible. If your answer is no, offer your suggestion to improve the sales mix. Round answers to two decimal places.