Quiz: variable cost and contribution margin assignment

Business

Quiz ??? Chapter 17 ??? Solution 1. Rider Company sells a single product. The product has a selling price of $40 per unit and variable expenses of $15 per unit. The company's fixed expenses total $30, 000 per year. The company's break-even point in terms of total dollar sales is: A) $100, 000. B) $80, 000. C) $60, 000. D) $48, 000. The answer is d. CMR = (P-V)/P = ($40 – $15)/$40 = 62. 5% Px = F/ (CMR) Px = $30, 000/. 625 = $48, 000 Use the following to answer questions 2-3: Weiss Corporation produces two models of wood chairs, Colonial and Early American.

The Colonial sells for $60 per chair and the Early American sells for $80 per chair. Variable expenses for each model are as follows: Colonial $35 9 Early American $48 8 Variable production cost per unit ……. Variable selling expense per unit ……. Total fixed expenses are $39, 600 per month. Expected monthly sales are: Colonial, 1, 800 units; Early American, 600 units. 2. The contribution margin per chair for the Colonial model is: A) $51. B) $16. C) $35. D) $25. The answer is b. CM = P-V = $60 – $35 – $9 = $16. Page 1 3.

If the sales mix and sales units are as expected, the break-even in sales dollars is closest to: A) $132, 000. B) $148, 500. C) $143, 000. D) $139, 764. Price: Variable Costs: Contribution Margin: Contribution Margin Ratio: The answer is c. Colonial to Early American Sales Mix: 3: 1 Weighted Average Contribution Margin Ratio: . 75(. 2667) +. 25(. 30)= . 20 +. 075=. 275 PX = F/CMR = $39, 600/. 275 = $144, 000 Weighted Average Contribution Margin: . 75(16) + . 25(24) = 12+6 = $18 X = F/CMU = $39, 600/$18 = 2, 200 units Colonial Sales Revenue: Early American Revenue: . 75(2, 200) = 1, 650 x $60 = . 5(2, 200) = 550 x $80 = $99, 000 44, 000 $143, 000 Colonial $60 -

44 $16 26. 67% Early American $80 -56 $24 30% Use the following to answer questions 4-5: Southwest Industries produces a sports glove that sells for $15 per pair. Variable expenses are $8 per pair and fixed expenses are $35, 000 annually. 4. The break-even point for Southwest industries is: A) 8, 000 pairs. B) 5, 000 pairs. C) 4, 375 pairs. D) 2. 333 pairs. The answer is b. X = F/(P-V) = $35, 000/($15-$8) = 5, 000 Page 2 5. The contribution margin ratio is closest to: A) 46. 7%. B) 53. 3%. C) 33. 3%. D) 42. 9%.

The answer is a. CMR = (P-V)/P = ($15 – $8)/$15 = 46. 667% Use the following to answer questions 6-8: Budget data for the Bidwell Company are as follows: Fixed Sales (100, 000 units).................... Expenses: Raw materials........................... Direct labor .... Overhead .... Selling and administrative......... Total expenses .... Net operating income .... Variable $1, 000, 000 $300, 000 200, 000 $100, 000 150, 000 110, 000 50, 000 $210, 000 $700, 000 910, 000 $ 90, 000 6.

Bidwell's break-even sales in units is: A) 30, 000 units. B) 91, 000 units. C) 60, 000 units. D) 70, 000 units. The answer is d. Contribution Margin For Company: Sales Revenue ??? Variable Costs $1, 000, 000 – $700, 000 = $300, 000 Contribution Margin Per Unit = $300, 000/100, 000 = $3 X = F/CMU = $210, 000 / 3 = 70, 000 units Page 3 7. The number of units Bidwell would have to sell to earn a net operating income of $150, 000 is: A) 100, 000 units. B) 120, 000 units. C) 112, 000 units. D) 145, 000 units. The answer is b. X = F + Operating Profit/ CMU = $210, 000 +$150, 000 / 3 = 120, 000 units 8.

If fixed expenses increased $31, 500, the break-even sales in units would be: A) 34, 500 units. B) 80, 500 units. C) 69, 000 units. D) 94, 500 units. The answer is b. X = F/CMU = ($210, 000 + $31, 500) / 3 = 80, 500 units Page 4 Use the following to answer questions 9-10: Henning Corporation produces and sells two models of hair dryers, Standard and Deluxe. The company has provided the following data relating to these two products: Selling price .... Variable production cost ....

Variable selling and administrative expense .... Expected monthly sales in units.......................... Standard $40 $10 $15 600 Deluxe $55 $16 $12 1, 200 The company's total monthly fixed expense is $13, 800. 9. The break-even in sales dollars for the expected sales mix is (rounded): A) $36, 800. B) $30, 000. C) $28, 105. D) $31, 222. Price: Variable Production Cost: Variable Selling Expense: Contribution Margin: Contribution Margin Ratio: Sales Mix The answer is b. Weighted Average Contribution Margin Ratio: Sales: VarCosts: Contrib. Marg.

CMR: $90, 000 $48, 600 $41, 400 46% ($40×600)+(55×1200) (25×600)+(28×1200) ($41. 500/$90, 000) Standard $40 -10 -15 $15 37. 5% 33% Deluxe $55 -16 -12 $27 49. 09% 67% Px = F/CMR = $13, 800/. 46 = $30, 000. Weighted Average Contribution Margin: . 33(15) + . 67(27) = 5+18 = $23 X = F/CMU = $13, 800/23 = 600 Standard: Deluxe: . 33(600) = 200 x $40 = . 67(600) = 400 x $55 = $8, 000 22, 000 $30, 000 Page 5 10. If the expected monthly sales in units were divided equally between the two

models (900 Standard and 900 Deluxe), the break-even level of sales would be: A) lower than with the expected sales mix.

B) higher than with the expected sales mix. C) the same as with the expected sales mix. D) cannot be determined with the available data. The answer is b. If the sales mix was 50%-50%, the weighted average contribution margin would be smaller, and dividing a smaller number into the same fixed cost would produce a higher break even point. Weighted Average Contribution Margin: . 5(15) + . 5(27) = 7. 5+13. 5 = $21 X = F/CMU = $13, 800/21 = 657 units Page 6 Answer Key ??? Quiz ??? Chapter 17 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. D B C B A D B B B B Page 7