

1. During the summer, Melissa earned money selling cosmetics door to door. In June she earned \$782.15, in July \$694.50, and in August \$985.90. What were her total earnings for the summer?
a. \$1,680.40 b. \$2,462.55 c. \$1,476.65 d. \$1,570.05
2. Christopher scored 80% on his math exam. If there were 120 questions on the exam, how many did he answer correctly?
a. 960 b. 40 c. 100 d. 96
3. Sarah made 15 free throws in 23 attempts. What was the percent of free throws she made?
a. 65 b. 6.5 c. 34.5 d. 8
4. A dozen eggs are selling for \$1.40 this week, up \$0.20 from last week. By what percent did the price increase from last week?
a. 28 b. 75 c. 17 d. 85
5. Barry got a loan of \$1500. He has to repay it in nine months and will be charged 8% simple interest. What is the amount of interest he will pay?
a. \$187.50 b. \$300.00 c. \$ 90.00 d. \$ 20.83
6. Hal's Appliances gives customers a cash discount of 2/10, n/30. If a customer receives a bill dated May 12 for \$300, what is the amount due if the bill is paid May 21?
a. \$306 b. \$ 6 c. \$310 d. \$294
7. Wearever Shoe Store marks up its shoes 30% of cost. If a pair of shoes costs the store \$25, what is the selling price?
a. \$75.00 b. \$32.50 c. \$17.50 d. \$24.17
8. All salespeople at The Broadway Clothing Store are paid a weekly salary of \$300 plus a commission of 10% on all sales over \$10,000. If Louis Arund had \$12,000 in sales for a week, what would be his gross pay for the week?
a. \$ 300 b. \$ 500 c. \$ 800 d. \$1,500
9. Matthew is paid \$8 an hour for a 40-hour week. All overtime work is paid at time-and-a-half. How much will he earn for working 60 hours?
a. \$480 b. \$240 c. \$320 d. \$560
10. During February, Crystal wrote six checks totaling \$482.26. She had a beginning balance of \$1,022.46 and she deposited \$156. What was her ending balance?
a. \$696.20 b. \$638.26 c. \$596.20 d. \$540.20
11. Stacy's bank statement balance is \$823.41. Stacy has two outstanding checks for \$32.63 and \$115.95. She also has an outstanding deposit of \$461.83. What is her adjusted bank statement balance?
a. \$ 790.78 b. \$ 674.83 c. \$1,136.66 d. \$1,285.24
12. James bought a used car for \$3,500. He made a down payment of \$500 and agreed to pay the loan back in 24 monthly installments of \$150. How much interest did he pay?
a. \$ 600 b. \$ 500 c. \$3,600 d. \$ 100
13. Nathan is paid on a piecework basis of \$0.15 per piece. On Monday he completed 700 pieces; Tuesday, 670; Wednesday, 720; Thursday, 800; and Friday, 760. What was his gross pay for the week?
a. \$447.50 b. \$105.00 c. \$365.00 d. \$547.50
14. Cathy Doherty makes a student loan payment for college of \$75 a month. How much will she pay in 3 years?
a. \$ 900 b. \$ 225 c. \$2,700 d. \$1,700
15. The Brannon's are painting the outside of their house. It will take two painters five days to paint the entire exterior of the house. Each painter works 8 hours a day at \$12 per hour. How much will it cost for the painters to work?
a. \$ 96 b. \$ 960 c. \$ 480 d. \$1,160
16. Dennis Taylor purchased a pair of running shoes for \$60, 2 pairs of casual pants for \$25 each, and a cotton shirt for \$23. How much did he spend?

- a. \$108 b. \$133 c. \$168 d. \$175
17. Al Cowles had \$250 to spend on clothes. He bought a jacket for \$65, a sweater for \$27, and a pair of slacks for \$18. How much did he have left?
a. \$140 b. \$158 c. \$205 d. \$202
18. Clara needs \$480 for a winter ski trip to Colorado. She works part-time and is able to save \$20 each week from her pay. How many weeks will she need to work in order to save the \$480?
a. 22 b. 24 c. 20 d. 12
19. A company makes a product at a cost of \$2.10 for the first 10,000 manufactured, and at a cost of \$1.90 for the next 10,000. During the month of August, the company sold 15,000 of the product for \$3.50 each. How much did the company earn?
a. \$52,500 b. \$32,800 c. \$21,000 d. \$22,000
20. An office is scheduled to be carpeted soon. The office is 20 feet x 24 feet overall, but has a small space (3 feet x 3 feet) that will not be carpeted. If carpet is selling at \$22 a square yard, how much will it cost to carpet this office?
a. \$ 480 b. \$ 471 c. \$1,151 d. \$1,271
21. Bob wishes to fertilize his lawn. A bag of lawn fertilizer covers 5,000 square feet. If his property measures 85 feet wide and 125 feet long, how many bags of fertilizer will he need to buy?
a. 2 b. 3 c. 4 d. 5
22. Four people ordered three 12-inch pizzas with the agreement that all would share equally. How much pizza would each person receive?
a. $\frac{3}{4}$ b. $\frac{1}{2}$ c. $\frac{5}{8}$ d. $\frac{1}{4}$
23. Each sprinkler system waters grass in a circular area with a 5-foot radius. If three sprinklers were placed in a straight line so they would overlap by 6 inches, what length would be watered in this design?
a. 30 b. 11 c. 29 d. 17
24. Diane Remandi wants to buy a new watch that costs \$65 and an outfit that costs \$50. She earns \$4.00 an hour and her "take home" pay is \$3.50 an hour. How many hours must she work to earn enough money to buy the watch and outfit?
a. 23 b. 33 c. 43 d. 30
25. Carol paid \$30 for a taxi ride from the airport to her home, including a \$2 tip. According to the sign posted in the taxi, the fare is based on a charge of \$3.00 for the first mile and \$0.50 for each additional one-half mile. How many miles was Carol charged for?
a. 23 b. 24 c. 25 d. 26
26. You wish to lay one row of bricks on the side of a house that measures 50 feet. Given that each brick is 8 inches long, how many bricks are needed to complete this task?
a. 55 b. 65 c. 58 d. 75
27. _____% of 100 is 40
a. 40 b. 4 c. 400 d. $\frac{1}{4}$
28. Suppose that 10 bikes could fit into the space required for 2 cars. How many bicycles could be parked in a lot designed for 45 cars?
a. 90 b. 225 c. 450 d. 275
29. \$255 is 60% of _____
a. 153 b. 425 c. 15,300 d. 212.50
30. 63 is 12% of _____
a. 525 b. 756 c. 5.25 d. 425
31. Lynn Gladowitz is a beautician. She earns an annual salary of \$16,470. She is paid on a biweekly basis. What is her gross biweekly pay?
a. \$686.25 b. \$316.73 c. \$603.46 d. \$633.46

32. Tyrone Washington is paid a 12% commission on every tuxedo he sells. If Tyrone sells 2 tuxedos for \$350.98 each, what is his commission?
a. \$42.18 b. \$84.24 c. \$94.24 d. \$24.00
33. Miriam Davis works on an assembly line. She is paid \$0.11 for every part that she assembles. Last week she assembled 2,880 parts. What was her gross pay for the week?
a. \$388.50 b. \$316.80 c. \$308.10 d. \$208.00
34. Michelle LeRoy has an annual salary of \$48,000. Based on a FICA tax rate of 7.65%, how much is deducted every year for FICA taxes?
a. \$ 3,672.00 b. \$ 367.00 c. \$ 36,720.00 d. \$ 36.72
35. Luke Deering earns a graduated commission. He earns a 5% commission on the first \$3,000 of sales, a 10% commission on the second \$3,000 of sales, and a 20% commission on the sales over \$6,000. If his sales for the month were \$13,500, what was his total commission?
a. \$1,200 b. \$ 450 c. \$1,950 d. \$2,700
36. Lucia Gomez took a civil service exam for a government job. On one section of the exam she answered 60 of 75 questions correctly. What percent of the questions did she get right?
a. 8% b. 18% c. 78% d. 80%
37. The owners of the stadium knew that approximately 12½% of the people who went to a game would buy programs. Last Saturday, attendance at the game was 57,128. Approximately how many programs were sold?
a. 7,141 b. 6,970 c. 7,241 d. 7,216
38. The owners of the stadium know that gross profit from a rock concert will be 50% of ticket sales of \$75,000. What will be the gross profit?
a. \$30,000 b. \$37,500 c. \$35,000 d. \$36,500
39. Pedro Jones worked 24 hours last week for a nursery. He is paid \$4.85 an hour. What was his straight time pay?
a. \$115.20 b. \$116.40 c. \$ 97.20 d. \$ 96.00
40. At the paper mill where she works, Evelyn Amori has a 7½ hour shift each day. She works 5 days a week and earns \$6.20 an hour. What is her straight time pay for the week?
a. \$250.00 b. \$223.20 c. \$217.00 d. \$232.50
41. Jim Kinsey is a salesperson for Porcelain Products. He is paid 18.5% commission on his gross sales. Last week his sales totaled \$3,680. What was his gross pay?
a. \$ 662.40 b. \$ 680.80 c. \$ 666.00 d. \$6,808.00
42. Jerry Lawrence, a librarian, is paid \$7.00 an hour for a 35-hour week. If he works more than 35 hours, he is paid time-and-a-half for overtime. Last week he worked 43 hours. What was his total gross pay?
a. \$245 b. \$301 c. \$329 d. \$389
43. LaBelle Carter sells textbooks. She is paid a graduated commission. She earns a 10% commission on the first \$5,000 of sales, 12% commission on the next \$5,000 of sales, and 15% on all sales over \$10,000. If her sales for the month total \$14,000, what is her total commission?
a. \$1,700 b. \$1,680 c. \$1,500 d. \$2,100

For problems 44-46 use the FICA rate of 7.65%.

44. Kai Wang worked 40 hours at \$7.85 per hour. How much FICA tax will be deducted from her gross pay?
a. \$ 20.40 b. \$240.21 c. \$314.00 d. \$ 24.02
45. Jim Goya is paid an annual salary of \$30,000. He is paid monthly. How much FICA tax will be deducted from his gross pay each month?
a. \$2,295.00 b. \$ 191.25 c. \$ 127.50 d. \$1,662.50

46. Terry Esparza is paid 12% straight commission. Last month his sales totaled \$20,000. How much FICA will be deducted from his gross pay each month?
- a. \$2,400.00 b. \$ 183.60 c. \$ 153.00 d. \$1,836.00

For problems 47-49 use the simple interest formula to solve each problem.

47. Isaac Kimball has been collecting interest at $9\frac{3}{4}\%$ for the last 6 months on a \$1,500 principal. How much interest has he earned?
- a. \$877.50 b. \$731.25 c. \$ 73.13 d. \$ 83.13
48. Josie Rice invested \$10,000 in an account that earns $8\frac{1}{2}\%$ interest. After 3 months, how much interest will Josie earn?
- a. \$325.00 b. \$425.00 c. \$206.25 d. \$212.50
49. Carlton Armando has \$989.56 in a savings account that earns 10% interest. After nine months, how much simple interest will Carlton earn?
- a. \$74.22 b. \$ 7.42 c. \$64.22 d. \$98.96
50. Walter Romero borrowed \$1,500 for 90 days at 12% interest from National Bank. Use the ordinary interest method to compute the interest Walker will owe the bank.
- a. 44.38 b. 45 c. 90 d. 88.76
51. Ginger LeRoy borrowed \$2,000 for 60 days at 11% interest from Western Bank. Use the exact interest method to compute the interest that Ginger will owe the bank.
- a. \$46.67 b. \$46.16 c. \$36.16 d. \$36.67

Use the exact interest method in problems 52-54 to calculate the maturity value.

	PRINCIPAL	RATE	TERM	MATURITY VALUE
52.	\$1,600	8%	240 days	
53.	\$3,500	10%	90 days	
54.	\$869	11%	72 days	

52. a. \$ 85.33 b. \$1,685.33 c. \$ 84.16 d. \$1,684.16
53. a. \$3,587.80 b. \$ 87.50 c. \$3,586.30 d. \$ 86.30
54. a. \$887.86 b. \$ 18.86 c. \$ 19.12 d. \$888.12
55. Susan Rubacky borrowed \$4,000 from her bank to pay for her computer. The loan was to be repaid in 90 days. The bank charged 11% interest. Figure the maturity value of Susan's loan using the ordinary interest method.
- a. \$4,110.00 b. \$ 110.00 c. \$ 108.49 d. \$4,108.49
56. Gregorio's Appliances bought a TV that had a list price of \$299.50 with a 10% trade-in discount rate. What was the net price?
- a. \$ 59.90 b. \$ 29.95 c. \$269.55 d. \$239.60
57. Maurice Rizzo belongs to the Bionic Bicycle Club and receives a 25% discount at Cycle Sports for all purchases. Maurice is planning to purchase a new bicycle that lists for \$400. How much will the net price be after the trade discount?
- a. \$100 b. \$300 c. \$ 80 d. \$320
58. The Belknap Wholesale catalog has a list price of \$28.50 for a set of wrenches. The net price after the trade discount is \$21.37. What is the trade discount rate?
- a. 25% b. 5.34% c. 13.29% d. 2.5%
59. The Sparkling Pan Kitchen Shop catalog features food processors with a list price of \$150.00. The net price after the trade discount is \$135.00. What is the trade discount rate?
- a. 1% b. 90% c. 15% d. 10%

60. The Photography Warehouse sells Beta Zoom lenses at a list price of \$172.50. The net price after the trade discount is \$125.50. What is the trade discount rate?
a. 2.72% b. 47% c. 27.2% d. 72.8%
61. Randy works at a fashion boutique and receives a 34% discount on all purchases. Randy wants to purchase a leather coat with a list price of \$200. After his trade discount, what is the net price Randy will pay for his coat?
a. \$ 34 b. \$166 c. \$ 68 d. \$132
62. At an auto parts store, the list price for a set of hubcaps is \$400 and the net price is \$250. What is the trade discount?
a. 37.5% b. 150.0% c. 62.5% d. 3.75%
63. On October 20, Hardware Distributors sold goods to Pahl Hardware that totaled \$1,574.80. Terms of the invoice were 2/10, n/30. If the invoice was paid on October 31, what was the cash price?
a. \$1,574.80 b. \$ 157.48 c. \$ 15.75 d. \$ 31.50
64. Prescott Department Store received an invoice dated March 24 for an order of dishes totaling \$3,875.00. Terms were 3/10, n/30. The invoice was paid on April 6. What was the cash price?
a. \$ 116.25 b. \$3,875.00 c. \$ 387.50 d. \$ 11.63
65. Pitcairn Gift Shop received an invoice dated August 28 for \$768.00 with terms of 2/10, n/30. The invoice was paid on September 5. What is the cash price?
a. \$ 75.26 b. \$ 15.36 c. \$752.64 d. \$768.00
66. A desktop copier from Sutherland Wholesalers has a catalog price of \$439.75 with a 15/10/5 chain discount. What is the net price?
a. \$ 65.96 b. \$ 43.98 c. \$ 21.99 d. \$373.79
67. Beauty Supply Inc. is trying to sell its older model hair dryers at a chain discount of 35/25/15 off the catalog price of \$365.95. What is the net price?
a. \$365.95 b. \$ 54.89 c. \$237.87 d. \$128.08
68. Precision Office Supplies is offering retailers a chain discount of 15/10/5 on its \$49.95 adding machines. What is the net price?
a. \$42.46 b. \$ 7.49 c. \$ 4.99 d. \$ 2.50
69. Ryerson Stores buys hair dryers at \$18 each and has a 20% markup based on the past selling price. What is the selling price of the hair dryers?
a. \$ 3.60 b. \$21.60 c. \$ 5.40 d. \$23.40

In problems 70-73 use the following problem.

Widget Industries has rented booth space at the International Trade Show Center. In the past, Widget has spent 7/16 of every dollar on exhibit construction and space rental, 1/8 for transportation, 11/32 on specialty advertising and personnel, and the balance on cleanup and removal of the exhibit after the show. Widget has budgeted \$228,000 for the coming show.

70. How much will Widget spend on construction and space rental?
a. \$ 99,750 b. \$ 9,750 c. \$ 98,650 d. \$109,750
71. How much will Widget spend on transportation?
a. \$228,000 b. \$ 28,500 c. \$ 78,375 d. \$ 99,750
72. How much will Widget spend on specialty advertising and personnel?
a. \$28,500 b. \$78,375 c. \$21,375 d. \$99,750
73. How much will Widget spend on cleanup?
a. \$28,500 b. \$78,375 c. \$21,375 d. \$99,750

74. Canteen Cooperative serves soup as part of its daily menu. The soup is packed in cans containing 46 oz each; the average portion size is $7\frac{1}{3}$ oz. On an average day, 125 portions of soup are served. To the nearest whole can, how many cans of soup are used each day?
a. 6 b. 7 c. 20 d. 25
75. Orbit sales mistakenly included 5% sales tax in a bill to a tax-exempt organization. The invoice showed a total of \$247.80 that included the 5% sales tax. What is the amount of tax that must be refunded?
a. \$12.39 b. \$11.50 c. \$11.80 d. \$10.95
76. Tonya Gibson earns a base salary of \$250 per week and an 8% commission on all sales over \$2,500. Tonya's sales for the past week were \$10,800. Find her earnings for the week.
a. \$864 b. \$914 c. \$664 d. \$250
77. James Smith is a salesperson that is paid an hourly rate of \$11, with overtime at time and a half for any hours in excess of 40 per week. In addition, he also receives a $7\frac{1}{2}\%$ commission on all sales over \$2,500 per week. James worked a total of 53 hours last week and had sales totaling \$8,659. What were his gross earnings for the week?
a. \$ 583.00 b. \$ 654.50 c. \$1,303.93 d. \$1,116.43
78. Pedro Chang is paid 10% commission on sales to retailers and 6% commission on sales to wholesalers. If sales to retailers were \$90,000 and sales to wholesalers were \$175,000, what was the total commission he earned?
a. \$10,500 b. \$19,500 c. \$26,500 d. \$22,99
79. Caryl Clothes purchased a dozen blouses at \$216 a dozen. Each blouse retailed for \$23.31. What was the rate of markup, to the nearest tenth of a percent, based on cost price?
a. 29% b. 31.2% c. 29.5% d. 12.95%

Use the problem below for questions 80-82.

Rack Room marked down shoes from \$50 to \$40

80. What was the rate of markdown based on the new selling price?
a. 20% b. 22% c. 25% d. 28%
81. If the shoes were marked down an additional \$15, what was the total rate of markdown based on the new selling price?
a. 20% b. 25% c. 50% d. 100%
82. What was the total rate of markdown based on the original selling price?
a. 20% b. 25% c. 50% d. 75%
83. Davis Consulting rents a portion of Pier End owned by Schwartz & Associates. The floor space of Davis Consulting's part of the building measures 150 feet by 110 feet. Schwartz & Associates charges an annual rate of \$11.40 per square foot. What is the monthly rental charge?
a. \$ 189,585.00 b. \$ 84,792.50 c. \$ 15,675.00 d. \$ 1,375.00
84. Brown's Hoisery store had an inventory worth \$27,650 on March 1. During March, Brown's ordered and received 50 pairs of men's socks costing \$2.75 each, 90 pairs of women's sport socks costing \$3.50 each, and 40 pairs of children's socks each costing \$1.50. On March 31, Brown's inventory was \$21,567. What was the cost of goods sold for March?
a. \$6,595.50 b. \$6,083.00 c. \$5,570.50 d. \$5,675.00
85. Hawthorne Manufacturing had an annual gross income of \$1,495,813. Deductions totaled \$959,896. If taxable income is over \$100,000, the federal corporate tax is \$22,250 plus 39% of the amount over \$100,000. What federal corporate income tax must Hawthorne pay for the year?
a. \$170,007.63 b. \$ 95,989.61 c. \$193,367.07 d. \$192,257.63
86. Kris purchased a whole life insurance policy with a face value of \$70,000. The annual premium is \$14.57 per \$1,000. What is her annual premium?
a. \$ 101.99 b. \$1,019.90 c. \$1,091.90 d. \$1,099.00

87. Mary McCarthy obtained a 20-year, \$85,000 mortgage at S & L Bank at an interest rate of 11.5%. The monthly payment is \$906.25. What is the new principal after the first payment?
- a. \$84,093.75 b. \$83,279.17 c. \$84,908.33 d. \$84,809.33

88. The Chang's have purchased a home and insured it for 85% of its replacement value of \$120,000. What is the total amount of coverage on their personal property and garage? Use the chart below to help calculate your answer.

<u>Home 85% Insured</u>		<u>Coverage</u>
Garage/Structure	12%	
Personal Property	52%	
Loss of Use		22%
Personal Liability	50%	

- a. \$65,280 b. \$76,800 c. \$53,040 d. \$60,000
89. Harrison Household Products, Inc. produces automatic ice crushers. Harrison's fixed costs are \$822,000. Variable costs per ice crusher are \$13.20. If Harrison sells each unit for \$19.95, how many units must be sold for it to break event?
- a. 120,778 b. 121,778 c. 122,778 d. 123,778
90. Sees Candy is shipping 860 pounds of holiday candy by air freight. Pickup is \$6.25 per 100 pounds or fractional part. Delivery is \$6.85 per 100 pounds or fractional part. The air freight rate is \$72.50 per 100 pounds charged on the actual number of pounds shipped. There is a 5% tax on the air freight. What is the total shipping cost?
- a. \$623.50 b. \$685.15 c. \$714.40 d. \$772.58
91. Aron Mahone drove his car 12,800 miles last year. His records show that fixed costs totaled \$1,712.64 and variable costs totaled \$1,141.76. How much did it cost per mile to operate his car?
- a. 13.4 cents b. 8.9 cents c. 22.3 cents d. 23.1 cents
92. XYZ Company had \$45,000 in surplus cash. The company decided to purchase a United States Treasury bill at an ordinary interest rate of 9.75%. The Bill matures in 110 days. The bank charges a \$30 service fee. What is the cost of the Treasury bill?
- a. \$43,650.21 b. \$43,658.48 c. \$43,689.38 d. \$43,781.17
93. Ken purchased a \$1,000 bond at the quoted price of 90 $\frac{1}{4}$. The bond pays interest at a rate of 6 $\frac{1}{2}$ %. What is the annual yield to the nearest hundredth of a percent?
- a. 9.25% b. 7.20% c. 6.50% d. 5.45%
94. The Herb Company plans to produce a do-it-yourself herb garden kit to be sold at \$49.95 each. The fixed costs are estimated to be \$701,250. The variable costs are \$21.90 per kit. What is the estimated break-even point in number of kits?
- a. 23,500 b. 22,500 c. 24,000 d. 25,000

Problems 95-100

The Hole-in-One Golf Specialty Shop has marked down three different lines of golf sets. Give the markdown and markdown rate for each set.

MODEL	REGULAR PRICE	SALE PRICE	MARKDOWN	MARKDOWN RATE
Westco	\$254.21	\$208.91	(95)	(96)
Model B	\$214.49	\$172.49	(97)	(98)
Liteweight	\$127.45	\$ 81.25	(99)	(100)

95. a. \$46.20 b. \$45.30 c. \$42.00 d. \$44.20

96. a. 36% b. 36.2% c. 19.6% d. 17.8%

97. a. \$46.20 b. \$45.30 c. \$42.00 d. \$44.20

98. a. 36% b. 36.2% c. 19.6% d. 17.8%

99. a. \$46.20 b. \$45.30 c. \$42.00 d. \$44.20

100. a. 36% b. 36.2% c. 19.6% d. 17.8%

2002 FBLA BUSINESS CALCULATIONS ANSWER KEY

	ANSWER		ANSWER		ANSWER		ANSWER
1.	B	26.	D	51.	C	76.	B
2.	D	27.	A	52.	D	77.	D
3.	A	28.	B	53.	C	78.	B
4.	C	29.	B	54.	A	79.	C
5.	C	30.	A	55.	A	80.	C
6.	D	31.	D	56.	C	81.	D
7.	B	32.	B	57.	B	82.	C
8.	B	33.	B	58.	A	83.	C
9.	D	34.	A	59.	D	84.	A
10.	A	35.	C	60.	C	85.	D
11.	C	36.	D	61.	D	86.	B
12.	A	37.	A	62.	A	87.	C
13.	D	38.	B	63.	A	88.	A
14.	C	39.	B	64.	B	89.	B
15.	B	40.	D	65.	C	90.	D
16.	B	41.	B	66.	D	91.	C
17.	A	42.	C	67.	C	92.	C
18.	B	43.	A	68.	A	93.	B
19.	D	44.	D	69.	B	94.	D
20.	C	45.	B	70.	A	95.	B
21.	B	46.	B	71.	B	96.	D
22.	A	47.	C	72.	B	97.	C
23.	C	48.	D	73.	C	98.	C
24.	B	49.	A	74.	C	99.	A
25.	D	50.	B	75.	C	100.	B

