

Section 4.1 Worksheet
Mathematical Models in the Business World

Name _____

Show your work for each problem.

1. Charlotte buys a diamond ring that costs \$1250 plus 8.5% sales tax. Find the amount of sales tax and the total cost of the ring.
2. Jonathan buys a motorcycle that costs \$5500 plus 7.75% sales tax. Find the amount of sales tax and the total cost of the motorcycle.
3. Sun Realty purchases new furniture for its offices. The total cost of the furniture is \$17,950, and the usable life of the furniture is determined to be 7 years. Using the straight-line method of depreciation, what is the annual allowable depreciation if the residual value of the furniture is estimated at \$1500?
4. A machine is purchased for \$10,000 with an estimated life of 5 years and no salvage value at the end of that time. What is the annual depreciation using the straight-line method?
5. Maria hand paints designs on vases and sells them to tourist shops in the mountains. The overhead for her studio is \$1050 per month and each vase costs \$8.50 to produce. She charges the tourist shops \$35.00 per vase. If she painted and sold 100 vases during June, how much profit did she make?
6. Libby wrote a romance novel and had it printed at the local printers shop for a setup fee of \$750 and \$2.50 per book. The printer required that a minimum of 500 books be printed. If she sells all 500 books for \$12.00 each, will she make a profit? Show work to support your answer.
7. A sporting goods store uses a markup rate of 55% on all items. The cost of a soccer ball to the retailer is \$15.75. What is the selling price of the soccer ball?
8. Vittorio's Discount Furniture Store marks up sofas 250%. If the store manager purchases several sofas for \$350 each, what will the retail price of each sofa be?
9. The suggested retail price of a stereo is \$217.50. Biggie Discount Store can purchase it for \$145. What is the suggested markup rate on this stereo?
10. A pair of pants costs a department store \$36.95. The selling price of the pair of pants is \$58.95. What is the markup rate of the pair of pants?