

Name \_\_\_\_\_

## Part 3: Math Skills

Make sure to show all steps and calculations or no credit will be given.

### Word Problems

Basic math skills are essential to carry out the daily activities of a retail business. Real-life situations require that you understand how to interpret word problems. *Word problems* are exercises set up in text rather than presented with mathematical notation. There are two steps to solving a word problem. First, carefully read the problem and translate the wording into a numeric equation. Second, solve the equation.

Complete the following problems. Show the equation and solve the problem.

1. The free enterprise system is the driving force that enables retailers to make a profit and stay in business. Central Products is a manufacturer that generated sales of \$838,515 last year. Total expenses were \$719,311. What was the profit or loss last year?

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2. Sigma Gears is a manufacturer that operates in the same industry as Central Products. Sigma's sales were \$1,325,875 last year, with total expenses of \$1,269,288. What was Sigma Gear's profit or loss? Compare Sigma Gear's profit or loss to Central Products in the previous question. Which company earned more money last year?

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3. The term *value-added* describes any enhancement to a product or service that makes consumers want to buy. Comparison shopping is a simple way to learn which product to buy and where to get the best value. You want to purchase a hot water heater. Ark Plumbing Supply has a model you like for \$449. Jensen Warehouse, a competitor, sells the identical model for \$599. Jensen offers free delivery, installation, and removal of your old heater. Ark Plumbing Supply charges \$50 for delivery, \$100 for installation, and \$25 to remove the old heater. Which business offers the lower total purchase price?

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Name \_\_\_\_\_

4. Refer to the prices listed in the previous problem. You need a water heater and can install it yourself. You need delivery, but there is no old water heater to remove. Based on this information, at which business will you get the lower total price?

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5. Ever-Brite Sponge Company manufactures various size sponges for household and janitorial use. The company sells its products to various retailers, as well as directly to the public through its website. Total sales last year were \$800,000, of which \$600,000 was to retailers.

- a. How much did Ever-Brite sell directly to the public?

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- b. Calculate the percentage of Ever-Brite's sales to the public using the following formula:

$$\frac{\text{sales to the public}}{\text{total sales}} \times 100 = \text{percentage of sales to the public}$$

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