



Applied Problems

Problem 1: A swimmer completes a 50-meter lap in 40 seconds. If she maintains this pace, how long will it take her to complete a 1,500-meter swim? If she then reduces her speed by 10%, how long will it take her to swim the same distance?

Problem 2: An investor buys 250 shares of stock at \$18 per share. If the stock value increases by \$3 per share, what is the total profit? If the stock then decreases by \$2 per share, what will be the new value of the investment?

Problem 3: A business makes a profit of \$2,400 every week. If the profit increases by 15% for 8 weeks and then decreases by 10% for the next 5 weeks, what is the total profit at the end of 13 weeks?

Problem 4: A loan has an interest rate of 7% per year. If \$12,000 is borrowed, how much interest will accrue in 5 years? If the interest rate is then reduced by 2% for the next 3 years, how much interest will accrue during those years?

Problem 5: A company spends \$4,500 monthly on electricity. If the cost increases by 8% after 12 months, what will be the new monthly expense? If the company then reduces its usage by 15%, what will be the new monthly bill?

Problem 6: A contractor hires 120 workers at a daily wage of \$75 each. If the contractor hires 30 more workers and increases the wage by 10%, what is the new daily wage bill?

Problem 7: An artist sells 300 paintings at \$450 each. If the price of each painting is increased by \$150, how much more revenue will the artist generate if she sells 200 more paintings at the new price?