**Applications of Direct and Inverse Variation**



1. The sales at a baseball game vary directly with the number of people attending. If the sales are $12,000 when 800 people attend, determine how many people attend if the sales for a game are $15,000.

2. Time traveling varies inversely with average speed. If a train travels between two cities in 3 hours at an average speed of 65 mph, how long would it take at an average speed of 78 mph?

![C:\Documents and Settings\nbradick\Local Settings\Temporary Internet Files\Content.IE5\9T3A2DCE\MC900431595[1].png]()3. Ounces of medication vary directly with the weight of the patient. If a 120 lb. adult requires three-fourths of an ounce of medication, how many ounces are required for a 200 lb. adult?

4. A company that produces laptops has determined that the number o f laptops it can sell varies inversely to the price of the laptop. Two thousand laptops can be sold when the price is $2,500. How many laptops can be sold if the price of the laptop is $1,000?

5. The number of shares varies directly with the amount of dividends received per year. If Kim owns 5 shares of stock and receives $12 per year, how many shares of stock will she need to receive $24?

6. The width of a rectangle varies inversely with its length. If the width is 4 when the length is 18, find the width when the length is 8.

7. The gallons of water used to take a shower vary directly with the number of minutes in the shower. If an 8 minute shower uses 48 gallons of water, find the constant of variation.

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