**Applications of Direct and Inverse Variation**

C:\Program Files\Microsoft Office\MEDIA\CAGCAT10\j0199036.wmf

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?

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.

