

Marvelous Meaningful Monthly Math

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Finance December

Career – Insurance Broker

Math Activity

You are an insurance broker. One day a customer calls your office and tells you that he has to reinsure his restaurant and he is shopping around for the best policy. He wants to know what kinds of insurance he needs to buy and about how much he will have to pay.

As a broker, it is your job to ask a few different insurance companies for estimates of how much his policy will cost. You have to find the best value for your client. You do have an idea of how much the going rate is, so you can give him a rough estimate of what he will be looking at.

You travel over to his restaurant to look over the contents and his assets. After reviewing his inventory and his finances (the "books") you have some concrete numbers to work with. You roll up your sleeves and get out your scratch pad.

You figure that he will need 3 different types of insurance in 1 package:

- Insurance for the contents of his restaurant -- this will insure equipment in case it is damaged or ruined.
- Insurance on his earnings -- this will protect him in case of a fire, for example, where the business must close down for a few months. This insurance means he can continue to pay his lease and employees and won't be bankrupted.
- Liability insurance -- this will protect him from customers who might sue him.

Altogether, there is about \$89,000 worth in contents. Looking over his books, you see sales of \$335,000 a year. The cost of food and overhead was \$100,500.

From your knowledge of the going insurance rates, you think that the insurance company will charge him \$0.50 per every \$100 for content insurance, \$0.20 per \$100 to insure the earnings, and \$2 per \$1,000 in sales for liability insurance.

How much can he expect to pay to insure his restaurant?

Name _____ School _____ Teacher _____

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Solution

You must estimate how much your client will pay to reinsure his restaurant with insurance on contents, earnings and liability. Here are your calculations. Start by calculating how much the content insurance will cost.

The restaurant has about \$89,000 in contents. You figure that the insurance company will charge \$0.50 per every \$100 of contents.

$$\mathbf{\$89,000 / 100 = \$890}$$

$$\mathbf{\$890 \times 0.5 = \$445}$$

It will cost the client about \$445 a year to insure the contents.

Since insurance companies only insure earnings on gross earnings, you need to figure out the amount of gross sales a year. Subtract the cost of food and overhead from the total sales.

total sales - overhead = gross sales

$$\mathbf{\$335,000 - \$100,500 = \$234,500}$$

You estimate that the insurance company will charge about \$0.20 per \$100 to insure the earnings.

$$\mathbf{\$234,500 / 100 = \$2,345}$$

$$\mathbf{\$2,345 \times 0.20 = \$469}$$

It will cost him about \$469 to insure the earnings.

Now, liability. It will cost \$2 per \$1,000 sales. The client has \$335,000 in total sales. You have to calculate this insurance on total sales because he is at risk for all the food he sells.

$$\mathbf{\$335,000 / 1000 = \$335}$$

$$\mathbf{\$335 \times \$2 = \$670}$$

It will cost your customer about \$670 for liability insurance.

Now, total the 3 types of insurance to figure out how much the whole package would cost.

Contents: \$445

Earnings: \$469

Liability: \$670

Total: \$1,584

He will have to pay about \$1,584 for the insurance package.

"Good math skills are essential," says David Creighton Sr., an insurance agent. "You have to have an understanding of how money works, of compounds, estimation. There's not a dramatic amount of algebra or trigonometry but you have to understand the basics."