

Using Math to Start a Poultry Farm

Mustafa

BEFORE YOU READ:

1. What is poultry? Read the definition below and use it in several sentences. Learn the words cost, revenue, and profit.
2. What math do you think a person might need to be able to start a poultry farm?

When I first came to the United States, I spent a lot of time with my uncle, who has a good mind for business. We discussed different ideas, and I kept a small notepad with me where I gathered information.

I bought 100 bags of chicken feed at \$35 per bag.

He was glad that I was thinking about opening my own business. He started asking me questions about my plans. I told him that I wanted to start a small organic poultry farm of 500 chickens.

The chickens would need space to roam freely and receive sunshine, so it was important for me to think about how many square yards I would need for the chicken house and for open space. After three months of collecting information, I finally found and rented the right space in the countryside. It had been a poultry farm before, so there was a chicken coop and an outdoor area. After preparing the available space, I had 78 square yards outdoors and 50 square yards indoors which is sufficient for raising 500 chickens.

Poultry (n):



domesticated birds that we keep for their eggs and meat. Chickens, turkeys, ducks, and geese are all examples of poultry.

I used math in many ways to start my business. For example, I hired my friend

to help me replace a fence. It took 59 hours to finish the work. When we were done, I paid him \$1,062 for his hard work, which is \$18 per-hour.



My next job was to buy the chickens and everything they would need. I bought 100 bags of chicken feed at \$35 per bag. I bought PVC pipes to use as chicken feeders which cost \$400. I installed a \$900 solar panel and many other things. And finally, I bought the 500 chickens, which cost about \$16.27 per chicken. My total expenses came to \$14,000, which I borrowed from my uncle.

When my chickens started laying eggs, I started to have an income. I collect 33 dozen eggs a day, which I sell for \$6 per dozen, for a total of \$198. In addition, every five months I send all the chickens to the slaughter house. I sell them for \$11 each, for a total of \$5,500. To replace them, I buy young healthy chickens that are ready to lay eggs.

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Math is a part of life. Without math, I couldn't start a great business. It is hard to think how difficult everyday life would be without math. I hope one day my poultry farm is going to be one of the

biggest poultry farms in Colorado. Every business needs time to be profitable. Even though my business is not yet profitable, I still make enough money to cover my labor. I spend 4 hours a day at my farm to feed the chickens, collect the eggs, and put them in the refrigerator. Twice a week I clean the coop and sanitize their feeders. Math helps me with managing the time, expenses, and the income for my future success.

AFTER YOU READ:

1. How did Mustafa arrive at the total of \$14,000 to start the poultry farm? Which of the expenses were one-time expenses and which are repeating?
2. How much money does he earn from the farm in five months? How much does it cost him to run the farm for five months? (Assume that a \$35 bag of feed weighs 50 pounds and that a chicken eats $\frac{1}{4}$ pound of feed every day.) At his current rate of income and expenses, how long will it take Mustafa to become profitable? If you are missing information to answer this question (such as, how many days are in each month and the hourly rate

he pays himself for his labor), make a reasonable guess. Make a spreadsheet to show your work.

3. What reasonable changes could he make to bring in more revenue in less time? Show the changes in your spreadsheet.
4. How much could he reasonably pay back to his uncle each month? Assuming his uncle is not charging interest, how long would it take him to pay off the \$14,000 loan?
5. Find the total square yards that Mustafa has for 500 chickens? Diagram the indoor & outdoor spaces in the box below. (Diagrams may vary.) On average, how many chickens fit in each square yard?

SEE ISSUE EXTRAS on our website for a solution sheet and more teaching tools.

Mustafa is a student at the Asian Pacific Development Center in Aurora, CO. He takes classes at Community College of Denver to be a Dental Hygienist. He is from Pakistan and has been living in United States for two years.



Plot Out the Poultry Farm

In the grid above, each square is equal to one square yard. What is the total square yardage? How did you figure it out? How could you design the space given the dimensions of Mustafa’s indoor chicken coop and outdoor yard?