

Name:

Class:

Date:

Activity 8.2A: Where Is the Math in Agriculture?

Instructions

Complete the math questions for each of the scenarios.

Malik's Community Garden

Malik has a small community garden in an urban area. He has ten raised growing beds (each measures 12 feet \times 4 feet), and an open plot of land (30 feet \times 80 feet) that can be used for growing. Membership costs \$100 per year. Members pay a flat rate of \$3 per pound for any produce they take home. Members who have been involved in the garden for more than five years receive a 25% discount on their produce. You are an intern helping Malik with the garden this year. Help him determine the answers to the following questions.

1. How much total growing area (square feet) is there in the community garden (raised beds and open plot)?

Answer:

2. If the square footage of growing area were divided evenly among seven members, how much growing area would each person be allotted?

Answer:

3. You are in charge of collecting membership fees from each person who has not paid his or her dues. You must also calculate the appropriate amount for their purchases. Calculate the total amount that you should collect for membership dues and produce sold.

Member	Years of Membership	Membership Paid	Pounds of Produce	Membership Amount	Produce Amount	Total Bill
Damaria	4	Yes	10	Answer:	Answer:	Answer:
Julio	12	No	12	Answer:	Answer:	Answer:
Maria	7	Yes	16	Answer:	Answer:	Answer:
Miracle	3	Yes	8	Answer:	Answer:	Answer:
Peter	1	No	4	Answer:	Answer:	Answer:

Member	Years of Membership	Membership Paid	Pounds of Produce	Membership Amount	Produce Amount	Total Bill
Susan	6	No	9	Answer:	Answer:	Answer:
Tyrone	2	Yes	15	Answer:	Answer:	Answer:

Total Received:

Mr. Grover's Wheat

You have been asked to help Mr. Grover, a local wheat producer, with the management of his sales and income. Mr. Grover has 3,000 acres of wheat, and averages 52 bushels of wheat per acre. Your job is to help him determine the best storage and marketing practices for his enterprise.

1. How many bushels of wheat did Mr. Grover harvest last year?

Answer:

2. If wheat is 60 lb per bushel, how many pounds of wheat did Mr. Grover harvest?

Answer:

3. Mr. Grover has been offered \$2.55 per pound for his wheat. He has also been offered \$5.50 per kilogram from a different commodity buyer. Which offer will yield him the highest income?

Answer:

4. Mr. Grover has a silo that is 14 feet tall with a diameter of 10 feet. How many cubic feet of wheat will it hold?

Answer:

Marietta's Dairy

Marietta is a farm manager who is responsible for overseeing a large dairy near the Canadian border. Calculate the following problems Marietta encounters in her daily responsibilities.

1. Three hundred cows are milked daily at the dairy. Each cow averages eight gallons of milk per day. How many gallons of milk does the dairy average on a daily basis?

Answer:

2. If milk weighs 8 1/2 lb per gallon, how many pounds of milk are produced daily?

Answer:

3. Canadian milk prices are higher than those in the United States. Marietta has a Canadian wholesaler who will pay a premium if the dairy can produce 85,000 kilograms of milk every 10 days. Is this an option the dairy can pursue? How many kilograms of milk could the dairy produce in a 10-day period?

Answer:

4. Marietta has a feed mixer that can make feed in one-ton batches. The ration has been calculated and the raw products for the appropriate ration include 60% haylage, 20% soybean meal, 10% oats, 5% brewer's yeast, and 5% mineral and vitamin supplement. How many pounds of each item should go into the mixer to make a batch?

- A. Haylage

Total pounds needed:

Answer:

- B. Soybean meal

Total pounds needed:

Answer:

- C. Oats

Total pounds needed:

Answer:

- D. Brewer's yeast

Total pounds needed:

Answer:

- E. Mineral and vitamin supplement

Total pounds needed:

Answer:

Social Media Management

Francisco owns a company responsible for managing the social media of several large agricultural companies. His goal is to increase consumer awareness of the brand and help increase agricultural literacy and sales.

1. A large company has hired Francisco. The company currently has 250 social media followers. Francisco estimates that every 50 followers will result in a 1% increase in the company income over the previous month. If the company had an average income of \$45,000 last month, how much increased income does Francisco estimate could be generated with an increase of 400 followers? (Remember your sequence of operations.)

Answer:

2. The company wants to conduct a social media contest and give away a vacation to Hawaii. The total cost of the prize will be \$5,000. If Francisco estimates the contest will result in 600 new followers and last month's income was \$45,000, is the contest going to generate enough income to cover the cost of the prize?

Answer: