



Milk Makin' Math Activity Book

Name

Milk Makin' Math

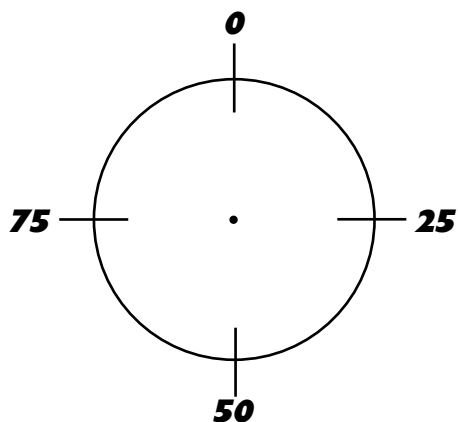
Station One: Dairy Nutritionist

A dairy nutritionist is an animal health professional who specializes in the nutritional needs of dairy cows. Nutritionists recommend the best diets for cows and monitor how cows respond to their feeding program.

	Percent	Decimal	Fraction
Hay			
Silage			
Almond Hulls			

1. A dairy nutritionist recommends feeding 60 pounds of feed to dairy cows every morning. The feed is a mix of hay, silage and almond pulp. The mix is 70 percent hay, 20 percent silage and 10 percent almond hulls. Represent each of these numbers in a percent, decimal and fraction form.

2. Create a pie chart using the percent quantities listed above. Color each ingredient of the feed a different color and include a color-coded key.



Key:

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3. Determine how many pounds of each ingredient to include in the feed. If 70 percent of the feed is hay and the feed weighs a total of 60 pounds, how many pounds of hay should you add? How many pounds of silage? How many pounds of almond hulls?

Example: (percentage of ingredient in decimal form) x 60 = Total Pounds

Hay _____ x 60 = _____

Silage _____ x 60 = _____

Almond Hulls _____ x 60 = _____

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Station Two: Dairy Farmer

A dairy farmer is a farmer who specializes in raising dairy cattle, specifically for milk and/or cheese products.



It takes 10 minutes to milk one group of 20 cows. Answer the following questions and show your work by completing the number lines below.

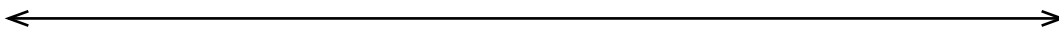
1. How many minutes will it take to milk 120 cows? _____ Hours? _____



2. How many minutes will it take to milk 200 cows? _____ Hours? _____



3. How many minutes will it take to milk 235 cows? _____ Hours? _____



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Station Three: Veterinarian

A veterinarian is a doctor who treats animals.

1. Part of a veterinarian's job is to protect animals from getting sick. That's why vets give animals shots. Veterinarians measure the amount of medicine to give a dairy cow in cubic centimeters, or cc's. A cc is a very small amount of liquid. Veterinarians also determine how much medicine to give an animal based on how much the animal weighs. Read the medicine label and determine how much medicine to give each of the following dairy cows.

Jersey	900 lbs.	_____
Holstein	1,500 lbs.	_____
Brown Swiss	1,400 lbs.	_____
Guernsey	1,050 lbs.	_____
Ayrshire	1,200 lbs.	_____

Dairyman Dave's Pharmacy

Rx#: 123456

Give 10 cc's of medicine for every 50 lbs. of weight.

2. Would a human or a dairy cow need more medicine? Why?



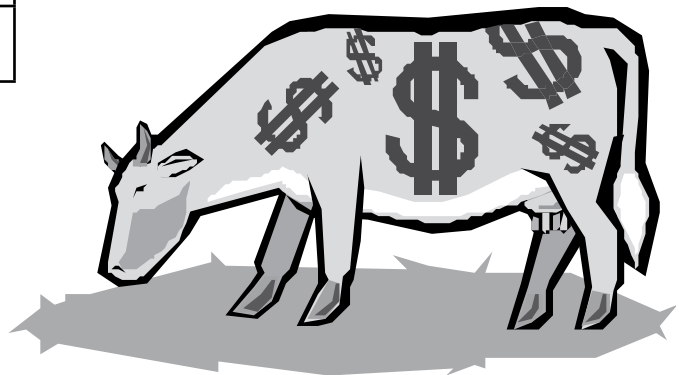
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Station Four: Accountant

An accountant keeps records of business-related financial transactions. They record business expenses and calculate the profit earned.

1. If a dairy has a herd of 200 cows and each cow produces 10 lbs. of milk each day, how many total pounds of milk does the herd produce each day?
2. If a dairyman sells milk for \$18.00 per 100 lbs. of milk, how much will he/she earn before expenses are calculated? Determine using the same herd as in Question #1.
3. Dairy farmers have many expenses in milk production. Using the expenses listed below, determine the total amount spent during the month.

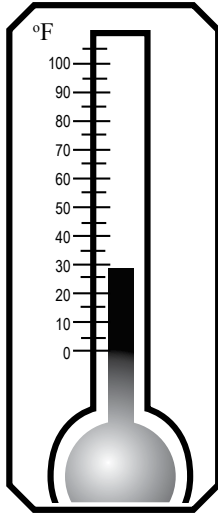
Expense	Amount
Labor	\$5,423.12
Feed	\$4,630.00
Vet Bills	\$415.25
Repairs	\$395.15
Supplies	\$89.75
TOTAL	



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Station Five: Safety Inspector

A safety inspector helps prevent harm to workers, property, the environment and the general public. Safety inspectors make sure the dairy products we consume are safe and healthy to eat. They also make sure the food we eat is free from germs and stored at the correct temperature.

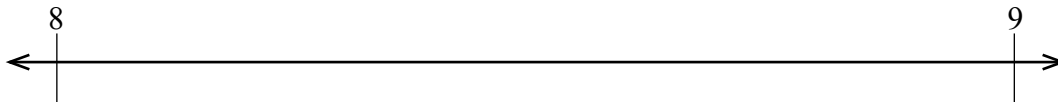


1. Immediately after milking, the temperature of milk is 101°F . Within four hours, the safety inspector will check to make sure the temperature has dropped to 50°F . How many degrees will the milk need to drop every hour to meet this goal? Express your answer in degrees as a mixed fraction and as a decimal.
2. At the processing plant, the 50°F milk goes into a batch used for making ice cream. The average temperature for ice cream is 4°F . How long will it take the milk to reach 4°F if the temperature drops 2°F every minute?

Station Six: Marketing Manager

A marketing manager advertises, promotes and sells milk to distributors, processing plants, and, eventually, to the public.

1. How much does a gallon of milk weigh? _____
2. Plot the weight of a gallon of milk on the number line below.



3. Round the weight of a gallon of milk to the nearest whole number. _____
 4. A dairy farmer has 800 lbs. of milk to sell. How many total gallons of milk is he/she trying to sell?
Round to the nearest whole number. _____
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