

#3 The Farm

Rodney's farm has chickens and cows. All cows have 4 legs. All chickens have 2 legs. Farmer Rodney keeps count of how many animals he has by counting the number of heads he sees and the number of legs he sees. On Monday, Rodney counted 21 heads and 54 feet.

a. How many chickens and how many cows are at the farm on Monday?

chickens (2)	20	11	44	66
	15	30	6	24
	17	34	4	16
	16	52	20	54

There are 15 chickens (24 feet) and 6 cows (24 feet) for a total of 54 feet.

b. Explain how you figured out your answer to part (a).

I did guess and check. I started by breaking it almost in half. Then decreasing the # of cows because my # of feet was too big. I guessed 15 chickens and 6 cows.

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a. How many chickens and how many cows are at the farm on Monday?

15 chickens  
6 cows

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I drew 21 circle animals, then I put lines in the animal circles until it equals 54. But when I put the lines in the circle I either put 4 lines or two lines that represents chicken or cow legs.

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a. How many chickens and how many cows are at the farm on Monday?

COWS + chickens = 21 heads  
 4 feet per cow + 2 feet per chicken = 54 feet

COWS = X  
 chickens = Y

$$x + y = 21 \rightarrow x = 21 - y$$

$$4x + 2y = 54$$

$$4(21 - y) + 2y = 54$$

$$84 - 4y + 2y = 54$$

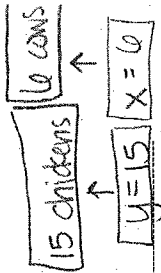
$$84 - 2y = 54$$

$$30 = 2y$$

$$y = 15$$

$$x + 15 = 21$$

$$x = 6$$



b. Explain how you figured out your answer to part (a).

I made two equations. One that represents the total number of animals, 21, and one that represents the total number of feet, 54. I solved it as a system of equations and found  $y = 15$  first, then plugged it back in to find  $x = 6$ . That means there are 15 chickens and 6 cows.

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a. How many chickens and how many cows are at the farm on Monday?

10 chickens + 11 cows = 21 animals  
 10 heads + 11 head = 21 heads

64 feet

10 chickens + 11 cows = 44 feet

$$164 - 104 = 60$$

$$60 - 44 = 16$$

$$16 \div 2 = 8$$

$$8 \times 4 = 32$$

$$8 \times 2 = 16$$

$$32 + 16 = 48$$

b. Explain how you figured out your answer to part (a).

I counted the heads right, but I don't know why the feet don't match. Maybe something wrong with the cows.