

You purchased 20 steers from a farmer that averaged 200 days of age at weaning, had an average weaning weight of 560 lb, and cost \$1.20/lb. The steers were from a herd of 50 cows that were palpated, of which 45 were diagnosed as pregnant. Forty-three cows produced live calves and 40 weaned offspring. The 205-day average adjusted weaning weight of the steers was 550 lb. The steers were pastured on ryegrass/clover for 150 days and placed into a commercial feedlot for 120 days. The average daily gain on grass was 1.7 lb/hd/day, and 2.7 lb/hd/day in the feedlot with a feed efficiency of 7. The total grazing costs, not including the purchase price of the steers, was \$3,060. The total feedlot costs, not including the purchase price of the steers, was \$5,184; feed represented 80% of the total feedlot costs. The sale price of the hot carcass was \$125/cwt (\$.78/lb live weight). The adjusted yearling weight of all steers was 1,050 lb.

Steer #10 (from the herd of 20 purchased steers) weighed 80 lb at birth, was weaned at 210 days of age, had an actual weaning weight of 550 lb, was the offspring of a 3-year-old cow, gained 225 lb on pasture, and 420 lb in the feedlot. At slaughter, the hot carcass weight was 717 lb.

1. Calculate the following regarding the cow herd or animal #10 (Answers in parentheses):
 - A. Pregnancy rate (90%)
 - B. Percent calf crop (80%)

Problems C through I, refer to steer #10

- C. Adjusted weaning weight (579 lb.)
- D. Weaning weight ratio (105.2)
- E. Weight per day of age (2.62)
- F. Yearling weight (819; based on the weight off grazing)

Reminder: Parts G, H, I are still for steer #10.

G. Yearling weight ratio (78)

H. Dressing percent (60%)

I. Carcass value (\$130/cwt)

2. How many pounds of feed were fed to the steers in the feedlot? (45,360 lb. for 20 head)

3. What was the cost per 100 lb of gain on grass? (\$60)

4. What price did the steers have to sell for to break even? (\$95.19/cwt)

Check the appropriate statement and sign:

Signature _____

___ These answers represent my own work.

___ These answers are part of a collective effort (2 or more people) in which I feel I contributed equally.

___ These answers are part of a collective effort (2 or more people) in which others did most of the work, and I followed what others said.

___ I obtained most of these answers from others.

Some helpful hints...

1. The data for the twenty steers and for steer #10 are in paragraph form. Re-write the data in a column or other organized form (with appropriate labels). This will help you see what calculations you need to do to answer the questions. For example, steer weights at the end of grazing is not given, but you have the weaning weight, daily gain while grazing, and the number of days grazing so you can calculate the weight at the end of grazing.

All the equations and information needed for question #1 (parts A through I) are in the lab manual.

2. "cwt" stands for hundred weight or per 100 pounds. It comes from the Roman numeral "C" for one hundred and "wt" for weight. Markets normally are reported on a "hundred weight" (hundred pound) basis rather than a "per pound" basis. When doing the math, it usually is easier to do the calculations on a per pound basis and then multiply by 100. Hundred weight is used for essentially the same reason as scientific notation, to get a whole number in front of the decimal. Having \$78.25/cwt is more user friendly than \$.7825/lb.
3. For question #3, "cost per 100 lb of gain" is just what it says: What did it cost to put 100 lb of gain on the steers while grazing? You need to determine the total pasture costs and the total gain on pasture to answer this. Cost of gain does not include the purchase price of the steers, just the associated feed costs.
4. For question #4, the break even price is calculated by determining the total costs (costs of the animals, medicine, pasture, feed, interest on loans, insurance, etc.) and dividing by the total weight being sold. (You don't have all those costs; use the costs given in the problem.) For example, if the total costs for a 1,200 lb steer were \$900, you would have to sell the steer for $\$900/1,200 \text{ lb} = \$.7500/\text{lb}$ or \$75.00/cwt to just break even. To make a \$50 profit, you would need to sell the steer for $\$950/1,200 \text{ lb} = \$.7917/\text{cwt}$.