

## National 4-H Livestock Skillathon – Breeding Scenario Examples

The following practice problems are examples of what might be on the skillathon team “Breeding Scenarios” station. Other scenarios and examples should be reviewed in order to be more prepared for the contest. Please use the given formulas to solve the following problems, include proper units on final answers, and take any decimals out two places. Assume all months are 30 days (i.e. 3 months=90 days)

$$\text{Adj WW} = \left\{ \left( \frac{\text{Actual WW} - \text{BW}}{\text{Age at weaning, days}} \right) \times 205 \right\} + \text{BW} + \text{Age of Dam adj.}$$

Age of dam adjustment:

Male calf: 2 (+60), 3 (+40), 4 (+20), 5-10 (0), >10 (+20)

Female calf: 2 (+54), 3 (+36), 4 (+18), 5-10 (0), >10 (+18)

1. A calf weighed 70 lbs at birth and weighs 560 lbs at 270 days later when he was weaned. He was then started on feed and he remained in the feedlot for four months after which he weighed 900 lbs. What is his adjusted weaning weight, assuming it was a male calf to a 4 year old cow? What is his average daily gain during the four months in the feedlot?
2. A farmer has three rams for sale, each at different weaning weights. As a buyer, you want to determine which ram has the best performance ratio in order to make the ideal purchase choice. The average weaning weight for all ram lambs in this flock was 60 lbs. The current date is July 1st. What are the weaning weight ratios for each of the three rams? Do the current weights indicate that the ram with the most post weaning also had the highest adjusted weaning weight?

	Date of Birth	Adjusted Weaning Weight	Current Weight
Ram A	January 15th	65 lbs	180 lbs
Ram B	February 1st	63 lbs	173 lbs
Ram C	January 20th	68 lbs	189 lbs

## KEY

1. A calf weighed 70 lbs at birth and weighs 560 lbs at 270 days later when he was weaned. He was then started on feed and he remained in the feedlot for four months after which he weighed 900 lbs. What is his weight per day of age at weaning? What is his adjusted weaning weight, assuming it was a male calf to a 6 year old cow (no adjustments for age of dam)? What is his average daily gain during the four months in the feedlot?

- Adjusted weaning weight =
  - $[\{(560-70)/270\} * 205] + 70 + 20 = 462$
- Average daily gain in feedlot:  $(900 - 560)/120 = 2.83$  lbs/day

2. A farmer has three rams for sale, each had different weaning weights and current weights. As a buyer, you want to determine which ram has the best performance ratio at weaning time, in order to make the ideal purchase choice. The average weaning weight for all ram lambs in this flock was 60 lbs. The current date is July 1st. What are the weaning weight ratios for each of the three rams? Do the current weights indicate that the ram with the most post weaning growth also had the highest adjusted weaning weight?

	Date of Birth	Adjusted Weaning Weight	Current Weight
Ram A	January 15th	65 lbs	180 lbs
Ram B	February 1st	63 lbs	173 lbs
Ram C	January 20th	68 lbs	189 lbs

- Weaning Weight ratios:
  - A:  $65/60 * 100 = 108$
  - B:  $63/60 * 100 = 105$
  - C:  $68/60 * 100 = 113$
- Post-weaning Growth:
  - A:  $180 - 65 = 115$  lbs
  - B:  $173 - 63 = 110$  lbs
  - C:  $189 - 68 = 121$  lbs
  - Yes, the ram with the most post-weaning growth is C, and that ram also had the highest adjusted weaning weight and highest weaning weight ratio.