**Problem Solving Component**

1. What is the PLS of a bag of seed that has a purity of 90.1 percent and that the germination is 65.9 percent?
   1. 59.38 b. 5.94 c. 60 d. 594
2. If Farmer Karen is planning on buying hay for her 35 horses that average 922 pounds and consume 3.7% of their body weight per day during haying season, *about* how many 1-ton bales must she buy to last 6 months?
   1. 215 b. 54 c. 11 d. 108
3. How many rolls of barbed wire would Farmer Mike need to purchase in order to put up a 3-strand fence around a pasture that measures 2050 ft X 3020 ft? Each roll is 300 yards of barbed wire.
   1. 34 b. 102 c. 23 d. 57
4. Farmer Mike (from question #3) is planning on buying a $1.92/oz herbicide for his pasture. The herbicide calls for 12.3 oz. per acre. *About* how much herbicide should Farmer Mike buy?
   1. 12 gallons b. 9 gallons c. 28 gallons d. 14 gallons
5. A sheep gave birth to two 7.7lb twin lambs on April 30th. On January 19th, the sheep were sold weighing a combined total of 217.3 lbs. What was the average daily weight gain per lamb per day to the nearest hundredth of a pound?
   1. 0.382 lb b. 0.765 lb c. 0.404 lb d. 0.397 lb

Brock has a 120-acre Alfalfa hay pasture that yields 2.1 tons of hay per acre in one cutting. His hay is baled in round bales measuring 48 in. wide and 72 in. in diameter, each weigh 2000 lbs. **Use this information for questions 6-7.**

1. About how many total tons of hay are produced in two cuttings?
   1. 456 tons b. 504 tons c. 300 tons d. 252 tons
2. If Brock’s empty barn can hold a total of 950 bales this size, how many more bales can he fit in the barn after the two cuttings?
   1. 446 b. 698 c. 650 d. 494

Soil test recommendations indicate your 30-acre mixed grass hay pasture needs 75 pounds of N2, 120 pounds of P2O5, and 110 pounds of K2O per acre. You’ve decided to blend your fertilizer using 11-0-0 ammonium sulfate at $278 per ton, 0-40-0 concentrated superphosphate at $608 per ton, and 0-0-49 potassium sulfate at $232 per ton. **Use this information to answer questions 8-10.**

1. How many pounds of potassium sulfate will be needed to meet the potassium needs for the entire 30 acres?
   1. 3653 lb b. 3300 lb c. 2250 lb d. 6735 lb
2. How many total tons of blended fertilizer will be needed to meet the requirements for this job?
   1. 20,455 ton b. 10.23 tons c. 5.011 tons d. 4.091 tons
3. What is the approximate total cost for this job?
   1. $1,163 b. $2,487 c. $3,963 d. $6,361