1. What is the single most important determinant of nutrient availability in feeds? (1 point)
   - digestibility

2. What do you need to collect and measure to perform a digestion trial? (2 points)
   - feces, urine (urea), feed intake

3. What is the major determinant of feed intake in non-ruminants? (1 point)
   - Energy needs - a horse will have to consume more to meet its energy needs than a cow because it is a non-ruminant - sometimes when the feed is poor

4. Gut fill regulates feed intake in ruminants consuming diets with < 2.5 Mcal/kg digestible energy while energy needs regulates intake when the diet is > 2.5 Mcal/kg digestible energy. (2 points)

5. Describe how feed intake is regulated by physiological state. (2 points)
   - Rats
     - When a rat is pregnant her energy requirements are higher than day to day maintenance so her feed intake increases.
     - Then when she is lactating, more energy is required and her feed intake further increases.

6. What did the detergent system improve upon in proximate analysis? (1 point)
   - fiber

7. Name a hormone that may control meal eating. (1 point)
   - leptin