22. [6 pts] Make up a collection of five scores from 0 to 100 for which the mean is 60, the median 50, and the mode 40. Explain your reasoning for each of these qualities.

- If the mean = 60, the total = 300.
- 50 is the middle score.
- There are two 40's + no other repeated scores.
- \[40, 40, 50, \overline{170}\]

23. [9 pts] The lifespan of a certain type of beetle is normally distributed with a mean of 37 days and a standard deviation of 3 days. What percent of these beetles live 40 days or less? Show clear work, but you need not explain.

24. [6 pts - 2 each] Identify each problem below as a permutation situation, a combination situation, or neither. Do not actually solve.

(a) I have several skirts and twice that many matching blouses. How many different outfits can I make?

(b) How many ways can we choose 5 toppings from Alario's list to put on our deluxe pizza?

(c) How many ways can we elect a president and vice president to represent all the elementary education majors on campus?

25. [4 pts] Evaluate the expression \(_{16}C_2\) by hand, showing clear work.

\[
\frac{16!}{14!2!} = \frac{16 \cdot 15}{2} = 120
\]