Algebra 2 Unit 11 Group Quiz

1. The value \( \binom{25}{2} \) is equivalent to:
   a. \( 25 \binom{2}{2} \)
   b. \( 25 \binom{23}{2} \)
   c. \( 25 \binom{23}{2} \)
   d. \( 2 \binom{2}{25} \)

2. How many terms are in the expansion of the binomial \((2x + y)^6\)

3. State the first and last term of the binomial expansion \((4x - y)^3\)

4. What is the complete expansion of \((a + b^3)^3\)

5. What is the complete expansion of \((x - y)^4\)

6. Identify the sum of the exponents of the 5th term of \((3x + 5y)^7\)

7. What are the first two terms of the expansion of \((x + 2y)^6\)

8. What is the fourth term of the expansion of \((x + y)^{11}\)

9. What is the 5th term of the expansion \((x + 5y)^6\)

10. What is the coefficient of the 8th term of the expansion of \((x - y)^{11}\)
11. Identify the coefficient of the term which contains $x^4$ in the Expansion of the binomial $(x - y)^6$

12. Identify the 2\textsuperscript{nd} term of the expansion of $(3x + y)^5$

13. If the variance of a set of data is 64, what is the standard deviation?

14. Many trains passed through Fresno yesterday. A representative from the city counted the cars from each train. She reported 65 as the mean and 6 as the standard deviation. Each train had 5 engines, and the engines were not included in the count. What would the report be if engines had been included in her count?

15. Identify the variance of the set of data \{9, 3, 7, 12\}

16. Consider the two sets of data:
   
   \#1 \{1, 3, 11\}
   
   \#2 \{4, 6, 8\}

When comparing data set \#1 with data set \#2, which statement is true? (Round to the nearest 10\textsuperscript{th})

A. The two data sets have different means and standard deviations
B. The two data sets have the same mean and standard deviation
C. Data sets \#1 and \#2 have the same mean but the standard deviation of \#1 is higher than the standard deviation of \#2
D. Data sets \#1 and \#2 have the different means but the standard deviation are the same

17. State the steps needed to calculate the standard deviation of a set of data?

18. Using "78" as the approximate mean of the set of data \{85, 72, 76\}, find the variance to the nearest 1/10\textsuperscript{th}