Math 4 Honors Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lessons 5-4 & 5-5 Review: *Counting Throughout Mathematics* Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Show your work for the following:*

1. Expand: 

2. Expand: 



3. Find the coefficient of the *a*5 term in 4. Write the 5th term in the expansion .

the expansion .

5. Write the term in the expansion of  that contains *c*4.

6. In how many different ways can the subjects of math, English, government, & physics be scheduled during the first four periods of the school day?

7. The probability of drawing a red card form a standard deck of 52 cards is ½. The probability of throwing a 4 on a die is 1/6. What is the probability of drawing a red card and throwing a 4?

8. A letter is chosen at random from the “REGENTS.” Find the probability that the letter chosen is an E.

9. From a standard deck of 52 cards, one card is drawn. What is the probability the card will either be an ace or a red king?

10. A gumball machine contains six yellow gumballs and 5 orange gumballs. What is the probability of obtaining, at random and without replacement, two yellow gumballs?

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11. A pencil holder contains six blue pencils and three red pencils. If two pencils are drawn at random, what is the probability both are blue?

12. The expression 11*C*2 is equivalent to

1. 11*P*2  B. 11*C*9 C. 11*P*9 D.  E. None of these.

13. A committee of 5 is to be chosen from 4 men & 3 women.

1. What is the probability that the committee will consist of 2 men & 3 women?
2. What is the probability that the committee will include all 4 men?
3. What is the probability that the committee will consist of men only?

14. Simplify the following expressions:

1.  b. 

15. What is the remainder when a polynomial, *p*(*x*), is divided by *x –* 96?