4.4 Pre-Test

PART 1:

${}_5P_2 =$

${}_6C_2 =$

$\frac{101!}{99!} =$

$\frac{6!}{4!} =$

$P(7,3) =$

$\frac{8 \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}{6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1} =$

PART 2:

1. Count the number of classmates present. If I were choosing 3 students for student of the month, how many different ways can I do this?

2. Mrs. Signorelli needs 2 volunteers from her Biology class. One student will pass out papers; the other student will erase the boards. If there are 22 students in the class, how many different ways can she do this?

3. There are 12 contestants in a horse race. 3 ribbons will be awarded (for 1st, 2nd, and 3rd places). How many different ways could the ribbons be awarded?

4. There are 7 finalists in the MAC championship. In how many ways can there be a MAC champ?

5. How many different arrangements can be made using the letters O R A N G E?

6. Ms. Baker has 20 pieces of candy. She is going to pass them out to 8 students. In how many different ways can she pass out the candy?

7. Mrs. Masley paints 10 portraits. How many ways can she give these portraits to 4 people?

8. A software company makes serial numbers for computers. How many different serial numbers could they make out of the numbers 1 4 6 3 2 5 7 8 9 0 ?

9. 12 players are on a tennis team. For each match the Coach Grow must start 3 singles players. How many different ways can she make these arrangements? (Singles 1 is different than Singles 2, etc.)

10. The volleyball team has 12 players but only 6 can be on the court at a time. How many combinations of player could be on the court? (There is no ranking or order to who is on the court.)

11. Coach Shuleski needs to create his batting line-up. There are 21 boys on his baseball team. If 9 players need to be in the line-up, how many ways can he do this?

12. There are 13 possible pizza toppings and the local pizza place. You can have 3 toppings on a large pizza. How many combinations of pizza toppings are possible?

13. Dino selected 6 books from the library. However, he can only check out 4 books at a time. How many possible selections can he make?

14. You are making a sandwich. There are 8 items for you to put on your sandwich. You decide to only put 4 items on the sandwich. How many combinations of items could you have?

15. There are four balls: red, green, purple, and blue. If 2 balls are picked, what is the possible number of combinations?