Probability Name _____
Permutations and Combinations WS

Show the calculation performed along with each answer.

1. Bill has 3 sweaters and 4 pairs of slacks. In how many ways can he select an outfit?

2. Alisha has 5 blouses, 4 skirts, and 4 sweaters in her wardrobe. In how many ways can she select an outfit, assuming she wears three items at once.

3. Four different books are displayed on a shelf. How many possible arrangements are there?

4. Six boys and six girls were nominated for a homecoming celebration at a local school. In how many ways can a king. a queen, and a court of 2 students be selected from those nominated?

5. In how many ways can a 6-member committee be formed from 10 people, if 2 particular people must be on the committee?

6. In how many ways can 4 **or more** students be selected from 8 students?

7. How many 2-member committees can be chosen from 7 people?

8. How many 3-letter monograms can be formed from the letters of VECTORS?

9. How many different 20-question examinations can be formed from a test bank containing 30 questions?

10. A football team has 6 basic plays. How many arrangements of three different plays could be called?

11. A map of the four western provinces is to be colored using a different color for each province. How many different arrangements are possible if there are 9 colors available?

12. There are seven empty seat on a bus and four people enter. In how many arrangements can they be seated?

13. In the United States, a postal code consists of five digits. In Canada, a postal code consists of a letter, a digit, a letter, a digit, a letter, and a digit. How many different postal codes are possible in each country?

14. There are 7 horses in one race and 6 in another. For a person placing a bet, in how many ways can the winner of the two races be chosen?

15. There are 8 horses in a race. in how many ways can the win, place, and show horses be selected?