

11.0 Intro to Permutation and Combination Calculations

Period _____

Evaluate each expression. Show your work.

1) ${}_8P_5$

2) ${}_7P_5$

3) ${}_9P_4$

4) ${}_5P_3$

5) ${}_{10}P_3$

6) ${}_6P_3$

7) $\frac{{}_6P_5}{{}_8P_4}$

8) $\frac{{}_8P_5}{{}_9P_5}$

9) $\frac{{}_5P_4}{{}_6P_5}$

10) $\frac{{}_9P_4}{{}_9P_8}$

$$11) {}_{17}C_5$$

$$12) {}_{23}C_{19}$$

$$13) {}_{14}C_9$$

$$14) {}_{23}C_3$$

$$15) \frac{{}_6C_4 \cdot {}_5C_2}{{}_{11}C_6}$$

$$16) {}_8C_5 \cdot {}_5C_3$$

$$17) \frac{{}_{15}C_8 \cdot {}_5C_2}{{}_{20}C_{10}}$$

$$18) \frac{{}_8C_3 \cdot {}_4C_2}{{}_{12}C_5}$$

$$19) {}_6C_3$$

$$20) \frac{{}_{15}C_{11}}{3}$$