

Algebra II REVIEW 10.1 - 10.3

Name Key

Hour \_\_\_\_\_

SECTION 10.1 - LOOK OVER YOUR NOTESFind  ${}_{11}P_5$  55,440

$$\frac{11!}{(11-5)!}$$

or on calc.

Find the number of distinguishable permutations of the letters in BASKETBALL.

$$\frac{10!}{2!2!2!} = \boxed{453,600}$$

B A L

How many different 3 - digit IDs can be made if the first digit must be a 7 and no digits may be repeated?

$$\frac{1}{\text{1st digit (only 7)}} \cdot 9 \cdot 8 = \boxed{72}$$

How many different ways can a chairperson and an assistant be selected for a research project if there are 7 scientists for the two positions?

$$7 \cdot 6 = \boxed{42}$$

SECTION 10.2 - LOOK OVER YOUR NOTESFind  ${}_{9}C_5$  126

$$\frac{9!}{(9-5)!5!}$$

The manager of a chain of restaurants must choose 6 restaurants from 11 for a promotion. How many different selections can be made?

$${}_{11}C_6 = \boxed{462 \text{ selections}}$$

A committee consists of 10 Republicans and 8 Democrats. In how many ways can a sub-committee be chosen if it has 5 Republicans and 4 Democrats?

$${}_{10}C_5 \cdot {}_8C_4$$

$$252 \cdot 70$$

$$\boxed{17,640 \text{ ways}}$$