

## FST 6-4 thru 6-5 Quiz Review 2

For 1- 3, Suppose a student dormitory in a college shows the data in the table below.

	Freshmen	Sophomores	Juniors	Seniors	
Own a car	70	60	70	90	290
Do not own a car	320	240	110	60	730
	390	300	180	150	1020

1) Calculate the percent that a student in the dormitory owns a car.

$$\frac{290}{1020} = 28.42$$

2) What percent of car owners are juniors?

$$\frac{70}{290} = 24.12$$

3) Out of all freshmen in the dorms, what percent do not own a car?

$$\frac{320}{390} = 82.12$$

4) How many four-letter permutations can be made from the letters in SNOWFLAKE?

$$9P_4 = 9 \cdot 8 \cdot 7 \cdot 6 = \boxed{3024}$$

5) Write  ${}_{15}P_6$  as a product of integers.

$$\underline{15} \cdot \underline{14} \cdot \underline{13} \cdot \underline{12} \cdot \underline{11} \cdot \underline{10}$$

6) You have a five digit lunch code at BHS. You have forgotten your lunch code. You remember that digits can be repeated. What is the probability you will guess it on the first try?

$$\underline{10} \cdot \underline{10} \cdot \underline{10} \cdot \underline{10} \cdot \underline{10} = 100,000$$

$$\frac{1}{100,000} = 0.00001$$

$$= 0.001\%$$

7) A car seats five people, two in the front and three in the back:

a) In how many ways can a family of five drivers be seated?

$$5P_5 = 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1 = \boxed{120}$$

b) In how many ways can a family of five be seated in the car on a driving trip if only two have driver's licenses?

$$\frac{\underline{2} \cdot \underline{4} \cdot \underline{3} \cdot \underline{2} \cdot \underline{1}}{\text{Driver's Seat}} = \boxed{48}$$

8) There are 31 teams in the NHL. What is the probability of correctly picking the top two teams in order by randomly guessing?

$$31P_2 = \frac{31}{15} \cdot \frac{30}{24} = 930$$

$$\frac{1}{930} = 0.00108$$

$$= 0.108\%$$