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Date _____
Algebra II

Creating/Using Two Way Frequency Tables

1. In a class of 30 students, there are 16 girls and there are 12 honors students. If there are 10 honor students that are girls, create a two way frequency table to represent this situation.

What is the probability that a student is not an honors student given that they are a girl?

	girls	not girls	total
honors	10	2	12
not honors	6	12	18
total	16	14	30

$\frac{6}{16}$

2. There are a total of 160 doctors in a city. There are 75 female doctors and 25 pediatricians. There are 20 female pediatricians.

Construct a two-way frequency table for this situation.

What is the probability that a doctor is a female given that they are a pediatrician? $\frac{20}{25}$

What is the probability that a doctor is a pediatrician given that they are female? $\frac{20}{75}$

	female	not female	
Pediatrician	20	5	25
not Pediatrician	55	80	35
	75	85	160

3. The guidance department has reported that of the senior class, 2.3% are members of key club, *K*, 8.6% are enrolled in AP Physics, *P*, and 1.9% are in both. Determine the probability of *P* given *K*, to the *nearest tenth of a percent*.

	P	not P	
K	1.9	.4	2.3
not K	6.7	91	~~100~~ 97.7
	8.6%	91.4	100

$\frac{1.9}{2.3} = 82.6\%$

4. In a local high school, the probably that a student passes the Algebra II Regents is 82% and the probably that a student passes Chemistry Regents is 74%. If the probably that a student passes neither exam is 18%, find the probability that a student passes the Chemistry Regents only.

	A2	Not A2	
Chem	74	0	74
Not Chem	8	18	26
	82	18	100

$\frac{0}{100} = 0\%$

5. Out of 29 students in a Geometry class, 19 came to a 6-hour review class in June. If 20 students passed the Regents and 16 students came to the 6-hour review class and passed the Regents, what is the probability that a student who did not attend the review class passed the Regents? Round your answer to the nearest percent.

	Review Class	Not Review Class	
Passed	16	4	20
did not pass	3	6	9
	19	10	29

$\frac{4}{10} = 40\%$

6. There are 84 athletes on a Track and Field team. 68 are sprinters and 14 are jumpers. If 10 athletes neither sprint nor jump, what is the probability that a sprinter is a jumper? Round your answer to the nearest tenth of a percent.

	Sprinter	not sprinter	
jumper	8	6	14
not jumper	60	10	70
	68	16	84

$\frac{8}{68} = 11.8\%$