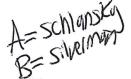


Date _____Algebra II

Probability Review Sheet



1. The probability that Chloe the cardinal shows up in the Schlansky's backyard is $\frac{12}{19}$. The probability that Chloe shows up in the Silverman's backyard is $\frac{10}{17}$. If the probability that Chloe shows up in the Schlansky's backyard or the Silverman's backyard is $\frac{12}{16}$, what is the probability that Chloe shows up in both backyards?

$$P(AUB) = p(A) + p(B) - p(ADB)$$

$$\frac{12}{16} = \frac{12}{19} + \frac{12}{17} - x$$

$$\frac{12}{16} = \frac{394}{393} - x$$

$$\frac{394}{323} = \frac{394}{323}$$

$$\frac{394}{323} = \frac{394}{323}$$

2. The probability that a student in Mr. Orkofsky's first period class passes the Regents is $\frac{25}{26}$ and the probability that a student in his period 8 class passes the Regents is $\frac{17}{19}$. If the probability that a student in period 1 or period 8 passing the Regents is $\frac{27}{28}$, what is the probability that a student passes the regents in period 1 and period 8? Round your answer to the nearest percent.

$$P(AUB) = P(A) + P(B) - P(A)B)$$

$$\frac{27}{38} = \frac{25}{36} + \frac{17}{19} - \times$$

$$\frac{27}{494} = \frac{917}{494} - \times$$

$$\frac{6169}{6916} = \times$$

3. The set of data in the table below shows the results of a survey on the number of messages that people of different ages text on their cell phones each month.

A == 0 C == 0	Text N	Text Messages per Month		
Age Group	0-10	11-50	Over 50	Hotal
15–18	4	37	68	109
19–22	6	25	87	118
23-60	25	47	157	229)
Joseph	126	109	312	USG

If a person from this survey is selected at random, what is the probability that the person texts over 50 messages per month given that the person is between the ages of 23 and 60?

X	157
	229

2) $\frac{157}{312}$

 $\frac{157}{384}$

4) $\frac{157}{456}$

157

4. A statistics class surveyed some students during one lunch period to obtain opinions about television programming preferences. The results of the survey are summarized in the table below.

Programming Preferences

				1
		Comedy	Drama	total
<	Male	70 __	35	105
,	Female	48	42	90
	total	118	77	195

What percentage of the school's male students would prefer comedy?

ordition 70 = 6.6

16.6%

5. 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. The principal would like a basic interpretation of these results. Write a statement relating your calculated probabilities to student enrollment in the given situation.

1.9 2.3 D.W

	Key club	No king Club	Total
AP Physics	1.9	6.7	8.6
No		91	914
AP Physics	. 7	011	100
Total 1	2,3/	91.7	100

82.6% of Seniors in 12eg clib are enrolled in AP Physics.

6. A study was designed to test the effectiveness of a new drug. Half of the volunteers received the drug. The other half received a sugar pill. The probability of a volunteer receiving the drug and getting well was 40%. What is the probability of a volunteer getting well, given that the volunteer received the drug? no 0829 well not well 7. At a local mall, 125 people were asked how they choose to pay for their merchandise. The data is shown in the table below: Credit Card Cash Male 40 10 Female 60 15 Does the data suggest that the gender and type of payment are independent of each You don't have other? Explain your answer. to+91 $p(A/B) = p(A) \cdot p(B)$

8. One-hundred employees of a company were asked their opinion on paying high salaries to the CEO. Their responses are summarized in the following contingency table.

}=	male Savor
B=	In Javor

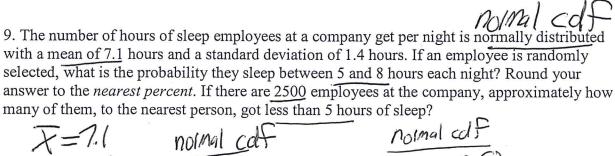
			_ 1 1 _ 1
	/In Favor /	Against	10191
Male	15	45	60
Female	4 /	36	140
4044	19/	81	100

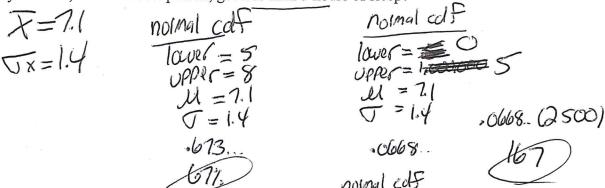
Based on the data, are gender an opinion on salaries independent of each other? Justify your answer.

Not Independent

$$p(A) = p(A/13)$$

$$\frac{20}{100} = \frac{15}{19}$$





10. The heights of students in an elementary school are normally distributed with a mean of 35.7 inches and a standard deviation of 3.2 inches. If a student is chosen at random from the elementary school, what is the probability that they will be between 34 and 35 inches? If there 235 students in the elementary school, to the nearest child, how many students are more than 40 inches 112

inches tall?
$$X=35.7$$
 $T=3.2$ $T=3.2$

11. Ricky and Marissa are very competitive with each other. Ricky took a physics test where the mean was 82, the standard deviation was 4, and he scored an 85. Marissa took a chemistry test where the mean was 78, the standard deviation was 6, and she scored an 83. Who scored better on their exam? Explain your answer.

on their exam? Explain your answer.

$$AiCky$$
 $AiCky$
 $Aicky$

7- 075