



Name _____ Period _____ Date _____

Probability: Everyday Decisions Based on Probabilities

1.5 - Choosing Classes Practice

Four teachers offer Zane's favorite computer class at different times during the day. The school counselor provides Zane with a list of teachers and the periods they teach the class. The morning classes are 1st, 2nd, and 3rd periods, and the afternoon classes are 4th, 5th, and 6th periods.

- Mr. Nelson – 2nd, 4th, 5th, and 6th
- Ms. Trevino – 1st, 2nd, 3rd, 4th, and 5th
- Mr. Garza – 1st, 3rd, 4th, and 6th
- Ms. Jones – 1st, 2nd, 3rd, and 6th

1.) Before deciding on a class, Zane wants to list all the possibilities so he can see the highest chance of getting a teacher he prefers. Create a table/area model that illustrates all the possibilities.

	1	2	3	4	5	6
Nelson		X		X	X	X
Trevino	X	X	X	X	X	
Garza	X		X	X		X
Jones	X	X	X			X
Lopez	X					X

3.) Before deciding on a morning or afternoon class, Zane remembers he wants to take his math class during 3rd period. What is the probability that he will be assigned the computer class during this time?

$$\frac{3}{17}$$

4.) Zane prefers to be in the class of Ms. Trevino or Mr. Nelson. What is the probability he will be in one of their classes?

$$\frac{9}{17}$$

5.) After checking the schedule, the counselor told Zane that Mr. Garza's classes are filled. How does this information affect the probability of Zane getting any afternoon class?

original
Afternoon : $\frac{8}{17} = .47$
prob

probability
of Afternoon : $\frac{6}{13} = .46$
w/Garza's
full

lowers
his
chance
b/c $.46 < .47$

6.) Because this is a required class for all students and Mr. Garza's classes are filled, the school adds another teacher, Ms. Lopez. She will teach 1st and 6th periods. How does this fact affect the probability that Zane will get a morning class?

Afternoon with Garza full : $\frac{6}{13}$	morning w/ Garza full : $\frac{8}{13}$.54	Afternoon morning w/ Lopez $\frac{8}{15}$.53
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chances go down
b/c $\frac{8}{15} < \frac{7}{13}$

7.) While Zane is calculating probabilities so he can make his decision, the class offerings change. (Mr. Garza's classes fill and Ms. Lopez is added.) If Zane requests an afternoon class, what is the probability of getting Ms. Trevino for 4th period?

$$P(\text{Trevino} | \text{afternoon}) = \frac{1}{7}$$

8.) What other factors might influence Zane's class selection?

Would these factors be reflected in the diagram or data?