

Name Answers

Date _____

Probability Extra Practice Packet

Find the number of possible outcomes.

1. Roll three dice at the same time. What is the total number of ways the dice could land?

<u>First Die</u>		<u>Second Die</u>		<u>Third Die</u>		
6 choices	X	6	X	6	=	<u>216</u>

2. Your combination lock has a three-digit combination. Each digit can be a number from one to nine. How many different combinations are possible?

$$9 \times 9 \times 9$$

729 combinations

3. It is the end of the week at Camp Kukfomee. The cook will make sandwiches for lunch. He has four kinds of meats, three types of bread, two choices of condiments, four choices of side dishes, and three choices of beverages. How many different lunch choices can he offer?

$$4 \times 3 \times 2 \times 4 \times 3$$

288 choices

4. The car dealership in town offers 32 different models of vehicles. Each model has a choice of eight interior colors, eight exterior colors, and also the option of automatic or manual transmission. How many combinations are possible?

$$32 \times 8 \times 8 \times 2$$

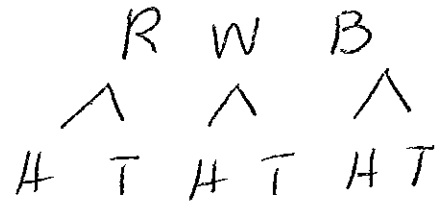
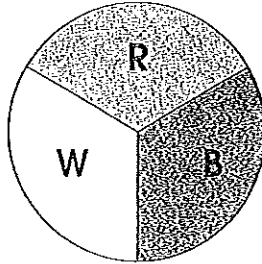
4096 combinations

The soccer team is choosing a uniform. They have a choice of black or white socks, black or white shoes, and 12 different colors of jerseys. What is the total number of clothing combinations?

$$2 \times 2 \times 12$$

48 combinations

- 6) You have a coin and a spinner with the colors red, white, and blue. What is the probability of tossing heads with the color blue?



$$P(\text{blue}) = \frac{1}{6}$$

7)

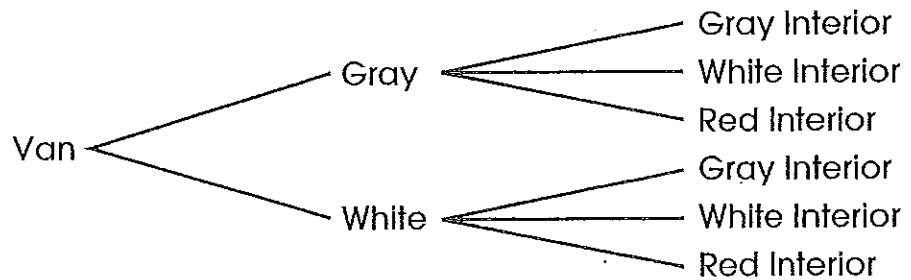
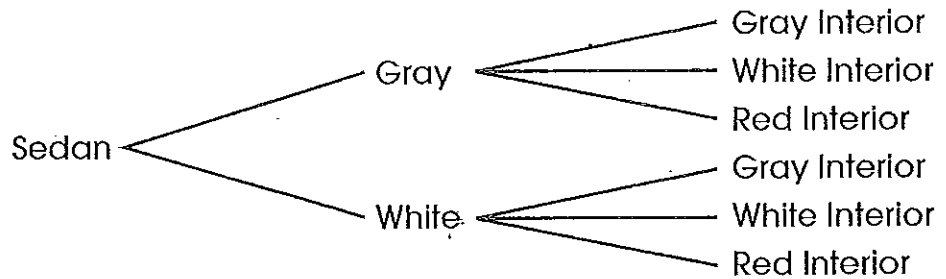
A canister contains 200 jellybeans. There are 75 cherry-flavored, 36 lime-flavored, 44 grape-flavored, and 45 coconut-flavored jellybeans.

What is the probability of choosing a given flavor? Express each answer in lowest terms

- | | |
|----------------------|----------------|
| 1. grape | <u>11/50</u> |
| 2. coconut | <u>9/40</u> |
| 3. cherry | <u>3/8</u> |
| 4. lime | <u>9/50</u> |
| 5. grape or lime | <u>2/5</u> |
| 6. coconut or cherry | <u>3/5</u> |
| 7. lemon | <u>0</u> |
| 8. grape or cherry | <u>119/200</u> |

8)

Mary's family is looking at new cars. They have narrowed it down to the following choices. The tree diagram below shows the possible outcomes.



→ means more than one event

1. The compound event described above has how many possible outcomes?

12 possible outcomes.

2. What is the probability that Mary's family will select a gray sedan with a black interior?

0

3. What is the probability that they will select a gray van?

$\frac{1}{4}$

4. What is the probability that they will select a white van with a red interior?

$\frac{1}{12}$

EXTENSION

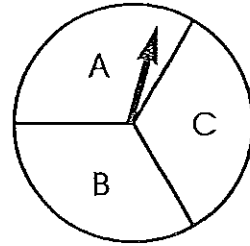
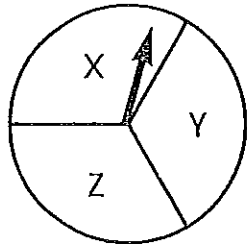
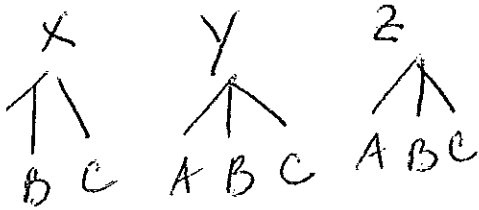
On another paper, show a different way to figure the number of possible outcomes in this compound event without drawing a tree diagram.

$$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{3} = \frac{1}{12}$$

Answers could vary

9)

Draw a tree diagram based on the spinners illustrated below. If the two spinners were each spun once, what would all the possible combinations of the two spinners be? List all the possible outcomes and the probability of each outcome.



$XA, XB, XC, YA, YB, YC, ZA, ZB, ZC$ - 9 possible
each outcome = $\frac{1}{9}$

- 10) Explain the difference between theoretical and experimental probability.

theoretical - based on the #s -
using a formula

Ex: Chance of getting a 4 ♠ in
a deck of cards $\frac{1}{52}$

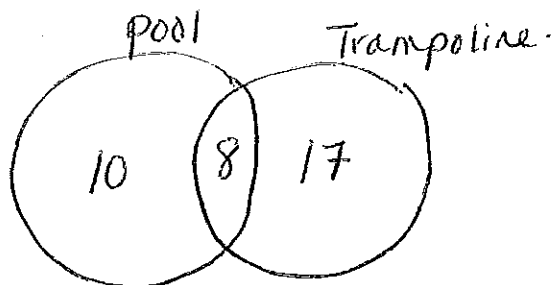
experimental - based on trials or
actually doing the experiment

Ex: take a deck of cards
& see how many times you
get a 4 ♠.

11) Dependent or Independent?

- a) Choosing a red marble from a bag, putting it back in and then choosing a blue marble. *I*
- b) Taking an Oreo cookie from the bag of cookie assortments, eating it and then choosing another Oreo cookie from the same bag. *D*
- c) Spinning a spinner with 9 sections and then rolling a die. *I*
- d) Drawing a King of Ace from a standard deck of cards, keeping it out and then drawing a Jack of Clubs. *D*

12) 18 children that live on Lovely Lane have a pool in their backyard. 25 children have a trampoline. 8 children have both. Draw a Venn Diagram to illustrate this. How many children have only one yard recreation item?



27 -
10 have a pool
17 trampoline

