

Probabilities of Compound Events - Independent Practice Worksheet

Complete all the problems.

1. Two coins are tossed, ~~how many outcomes?~~ ~~how many outcomes?~~

~~how many outcomes?~~

2. There are 3 marbles (yellow, blue, and green). You pick a marble and flip a coin. How many outcomes are possible?

3. Paul has a white and blue shirt. He also has two trousers of brown and black. How many different outfits could he create?



4. Jamie has a cup holder that can hold 3 cups at a time. The cup holders are labeled a, b, and c. He has 3 different color cups (blue, green, purple). In how many ways can the cups be arranged in cup holders?

5. Ron has to color in three shapes (square, circle and triangle) with different colors (red, blue, green). In how many different ways can the shapes be colored?

6. Harry has three vehicles (bicycle, scooter, and car). He uses them to go to school, the garden, and the theatre. If he is out of the house, how many possible methods of transportation and places could he be?

7. Smith wants to rearrange all the letters of the word "OUT" in different ways. How possible ways could he do it?

8. Fred has two pens (red and green). He wants to write the word "YES" and "NO" with both pens. In how many ways can he write both words with both pens?

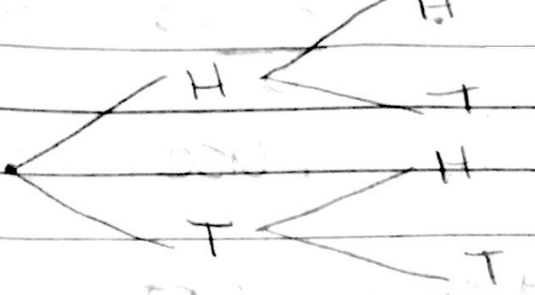
9. Anderson writes his name in English and Spanish language with chalk, pencil, and pen. How many ways did he write his name?

10. Thomas can go to school and ice cream parlor on the bus and his bicycle. In how many ways can he reach the school and parlor?

Compound events

1.

coin 1 coin 2



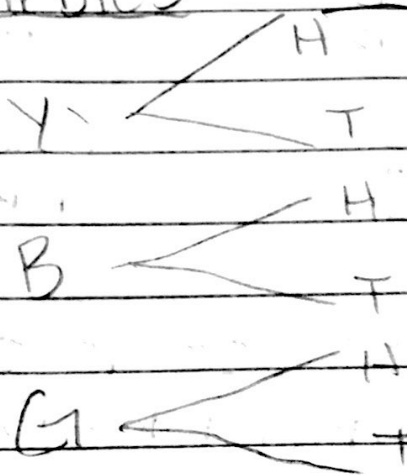
2 • 2 = 4
sides sides

2.

marbles

coin

sample space



YH

YT

BH

BT

GH

GT

3 • 2 = 6
colors sides

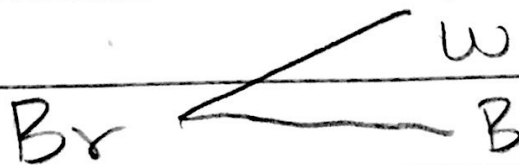
↑
how many
in sample
space.

↖ what is
in sample
space

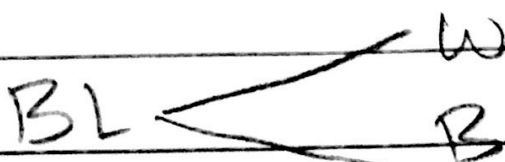
3.

Trousers

Shirts



= 2 • 2 = 4



4.

$$\frac{3 \text{ options}}{\text{spot A}} \cdot \frac{2 \text{ options}}{\text{spot B}} \cdot \frac{1 \text{ options}}{\text{spot C}} = 6 \text{ possible outcomes}$$

when options decrease, use a list!

SAMPLE SPACE

SPOT A	SPOT B	SPOT C
B	G	P
B	P	G
G	B	P
G	P	B
P	B	G
P	G	B

- 1
- 2
- 3
- 4
- 5
- 6

5. Use a list because it says "different"
 IF an option CAN'T be repeated -
 USE A LIST! $3 \cdot 2 \cdot 1 = 6 \text{ options}$

SAMPLE SPACE

□	○	△
R	G	B
R	B	G
G	R	B
G	B	R
B	R	G
B	G	R

- 1
- 2
- 3
- 4
- 5
- 6