A.

You have a bag containing three red, seven green, and six blue pens. You choose two pens at random. Find each probability.

1. P(blue and blue) with replacing

To be and blue, with replacing or |4|

2. P(red then green) without replacing

3. P(red and blue) with replacing $\frac{3}{16}$, \frac

В.

1. In how many different ways can you choose three CDs from a selection of 10 CDs?

2. You have enough money for three extra toppings on a pizza. If there are nine possible toppings, how many choices do you have?

9 • 8 • 7 = 504 choice

C.

1. A coin is tossed four times. What is the probability of getting 4 heads in a row? $\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{16}$ or 6.3

2. Is flipping a coin an independent or dependent event. Explain.

Independent. It does not depend on a previous event.

D.

1. You have six sizes of envelopes and three different kinds of stamps. How many different combinations of envelopes and a stamp are possible?

6.3 = ()
envelopes Stamps

FUNDAMENTAL COUNTING

E.

Suppose you roll a number cube. Find each probability.

1. P(even)

3. P(not 3)

1,7,4,5,6

chance 2. P(7 or 3)

4. P(4 or 2)

F.

Six roles are being cast for a school play. Fifteen students show up for auditions.

1. How many different casts are possible? 15.14.13.12.11.10

35.3%

3,603,600 different

G.

1. Is a 6-letter password or 6-digit password harder for someone to guess? EXPLAIN WHY.

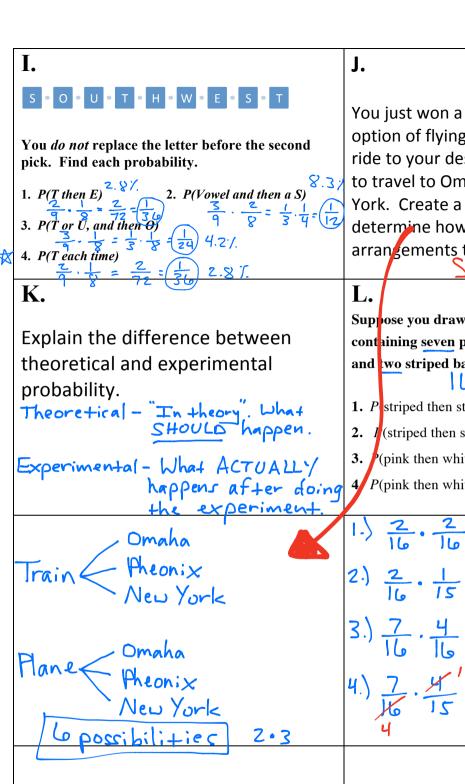
26. 26. 26. 26. 26 = 308,915,75 Letters A-Z W/replacement

10.10.10.10.10.10=(1,000,000) Numbers 0-9 w/replacement

Н.

1. Think of an example of an event with a probability of zero. Explain what it means to have a probability of zero. Rolling an & an a large rabe with

2. Patrice has a 40% chance of making a free throw. What is the probability that she will miss the free throw?



You just won a free trip and have the option of flying or taking a peaceful train ride to your destination. You can choose to travel to Omaha, Phoenix, or New York. Create a tree diagram to determine how many different travel arrangements that can be made.

Suppose you draw two balls at random from a bag containing seven pink, four white, three yellow, and two striped balls. Find each probability.

- **1.** P striped then striped) with replacing
- 2. I (striped then striped) without replacing
- 3. (pink then white) with replacing
- **4/** *P*(pink then white) without replacing

2.)
$$\frac{2}{16} \cdot \frac{1}{15} = \frac{1}{8} \cdot \frac{1}{15} = \frac{1}{120} 0.8 \%$$

3.)
$$\frac{7}{16} \cdot \frac{4}{16} = \frac{7}{16} \cdot \frac{1}{4} = (\frac{7}{64})10.9\%$$