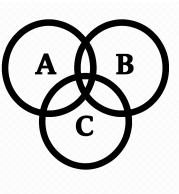
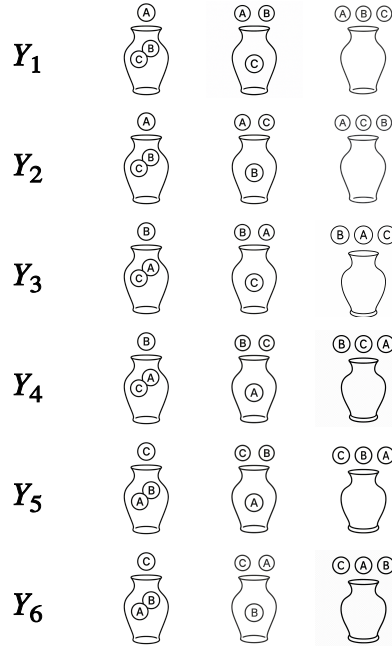
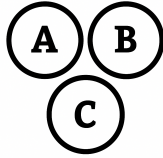


# J

## Permutations

# J



$$N = \{A, B, C\}$$

$$|Y| = \text{number of permutations} = rP_k = \frac{r!}{(r-k)!}$$

$$|Y| = |N| \times (|N|-1) \times (|N|-2)$$

$$|Y| = 3 \times 2 \times 1 = 6$$

$$M = \{T, H\}$$

$$|X| = \text{number of permutations} = |M|^3$$

$$|X| = |M| \times |M| \times |M|$$

$$|X| = 2 \times 2 \times 2 = 8$$

?

$$N = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$$

$$M = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9\}$$

$$X = \text{number of permutations} (N, 1) : Y = \text{number of permutations} (M, 4)$$

$$|Z| = |X| \times |Y| = ?$$

**J**

# Permutations

**J**

$$N = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$$

$$M = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9\}$$

$$X = \textcircled{N,1}$$

$$Y = \textcircled{M,4}$$

$$|Z| = |X| \times |Y| = |N| \times |M|^4 = 9 \times 10 \times 10 \times 10 \times 10 = 90,000$$