

# Probability Formulas

## Exercise in Identification

For each of the following 6 formula names, decide what is being found (second column) and give the correct formula from the third column.

The answers should be in the form: 1. A. a.

It is possible for two letters from the second column to apply.

Name of Rule	Resulting Probability	Formula
1. The Multiplication Rule (A and B Independent)	A. $P(A \text{ and } B)$	a. $P(A) \times P(B)$
2. The Multiplication Rule (A and B Dependent)	B. $P(\text{at least one of } A \text{ and } B)$	b. $P(A) \times P(B A)$
3. The Addition Rule (A and B mutually exclusive)	C. $P(A \text{ or } B)$	c. $P(A) + P(B)$
4. The de Méré Rule ('not A', 'not B' independent)	D. $P(\text{'exactly } k \text{' out of } n \text{ trials})$	d. $\frac{n!}{k! \times (n-k)!} \times p^k \times (1-p)^{n-k}$
5. The de Méré Rule ('not A', 'not B' dependent)		e. $1 - [P(\text{not } A) \times P(\text{not } B)]$
6. The Binomial Formula		f. $1 - [P(\text{not } A) \times P(\text{not } A \text{not } B)]$

**Answers on the next page.**

1. A. a.

2. A. b.

3. (B. or C.) c.

4. (B. or C.) e.

5. (B. or C.) f.

6. D. d.