

Self-Check 3.2, 3.3, 3.4

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Self-Check 3.2, 3.3, 3.4

1. Table below describes the distribution of a random sample S of 100 individuals, organized by gender and whether they are right- or left-handed.

	Right-handed	Left-handed
Males	43	9
Females	44	4

Let's denote the events M = the subject is male, F = the subject is female, R = the subject is right-handed, L = the subject is left-handed. Compute the following probabilities:

1. $P(M)$
2. $P(F)$
3. $P(R)$
4. $P(L)$
5. $P(M \text{ AND } R)$
6. $P(F \text{ AND } L)$
7. $P(M \text{ OR } F)$
8. $P(M \text{ OR } R)$
9. $P(F \text{ OR } L)$
10. $P(M')$
11. $P(R|M)$
12. $P(F|L)$
13. $P(L|F)$

Self-Check 3.2, 3.3, 3.4

2. The table relates the weights and heights of a group of individuals participating in an observational study.

Weight/Height	Tall	Medium	Short	Totals
Obese	18	28	14	
Normal	20	51	28	
Underweight	12	25	9	
Totals				

1. Find the total for each row and column
2. Find the probability that a randomly chosen individual from this group is Tall.
3. Find the probability that a randomly chosen individual from this group is Obese **and** Tall.
4. Find the probability that a randomly chosen individual from this group is Tall **given** that the individual is Obese.
5. Find the probability that a randomly chosen individual from this group is Obese **given** that the individual is Tall.
6. Find the probability a randomly chosen individual from this group is Tall **and** Underweight.

7. Find the probability a randomly chosen individual from this group is Tall **or** Underweight.
8. If **two individuals** are randomly chosen **with replacement**, find the probability that both individuals from this group are Short.
9. If **two individuals** are randomly chosen **without replacement**, find the probability that both individuals from this group are Short.

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