MORNING STATISTICS | PRACTICE SERIES

# Probability Practice

## With and Without Replacement

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Name: _____ Date: _____ Time: _____ Score: ____ / 20

**Instructions:** Show your working in the box and write the final answer as a fraction (and a decimal if you can). Order of drawing does not matter unless the question says so.

## Section A: With Replacement (Q1 to Q10)

**Q1.** A bag contains 5 red balls and 3 green balls. Two balls are drawn at random **with replacement**. Find the probability that both balls are red.

Working

**Answer:** _____

**Q2.** A box contains 4 white balls and 6 black balls. Three balls are drawn at random **with replacement**. Find the probability that exactly 2 of them are white.

Working

**Answer:** _____

**Q3.** An urn contains 3 red, 4 blue and 5 yellow balls. Two balls are drawn at random **with replacement**. Find the probability that one is red and the other is blue.

Working

**Answer:** _____

**Q4.** A pack has 4 blue, 2 red and 3 black pens. A pen is drawn at random and put back. If this is done 3 times, find the probability that exactly 2 are blue and 1 is black.

Working

**Answer:** _____

**Q5.** A bag contains 6 red balls and 4 white balls. Four balls are drawn at random **with replacement**. Find the probability that at least one ball is white.

Working

**Answer:** _____

**Q6.** A box has 10 bulbs, of which 2 are defective. Three bulbs are drawn one by one **with replacement**. Find the probability that none of them is defective.

Working

**Answer:** _____

**Q7.** Ten cards are numbered 1 to 10. Two cards are drawn at random **with replacement**. Find the probability that both cards show even numbers.

Working

**Answer:** _____

**Q8.** An urn contains 3 red, 3 green and 4 blue balls. Three balls are drawn at random **with replacement**. Find the probability that one ball of each colour is obtained.

Working

**Answer:** _____

**Q9.** A bag contains 7 red balls and 3 blue balls. A ball is drawn, its colour noted, and it is replaced. A second ball is then drawn. Find the probability that the first ball is red and the second ball is blue.

Working

**Answer:** _____

**Q10.** A bag contains 3 red, 2 white and 5 blue balls. Three balls are drawn at random **with replacement**. Find the probability that all three balls are of the same colour.

Working

**Answer:** _____

## Section B: Without Replacement (Q11 to Q20)

**Q11.** A bag contains 5 red balls and 3 green balls. Two balls are drawn at random **without replacement**. Find the probability that both balls are red.

Working

**Answer:** _____

**Q12.** A box contains 4 white balls and 6 black balls. Three balls are drawn at random **without replacement**. Find the probability that exactly 2 of them are white.

Working

**Answer:** _____

**Q13.** A pack has 4 blue, 2 red and 3 black pens. Three pens are drawn at random **without replacement**. Find the probability that one pen of each colour is drawn.

Working

**Answer:** _____

**Q14.** An urn contains 3 red, 4 blue and 5 yellow balls. Two balls are drawn at random **without replacement**. Find the probability that the two balls are of different colours.

Working

**Answer:** _____

**Q15.** A bag contains 6 red balls and 4 white balls. Four balls are drawn at random **without replacement**. Find the probability that at least one ball is white.

Working

**Answer:** _____

**Q16.** A box has 10 bulbs, of which 2 are defective. Three bulbs are drawn at random **without replacement**. Find the probability that none of them is defective.

Working

**Answer:** _____

**Q17.** Ten cards are numbered 1 to 10. Two cards are drawn at random **without replacement**. Find the probability that both cards show even numbers.

Working

**Answer:** _____

**Q18.** A committee of 3 is chosen at random from 5 men and 4 women. Find the probability that the committee has exactly 2 women.

Working

**Answer:** _____

**Q19.** A bag contains 7 red balls and 3 blue balls. Two balls are drawn one after another **without replacement**. Find the probability that the first ball is red and the second ball is blue.

Working

**Answer:** _____

**Q20.** Two cards are drawn at random **without replacement** from a well-shuffled pack of 52 playing cards. Find the probability that both cards are hearts.

Working

**Answer:** _____

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