# Displaying Discrete Data

**Starter**

1. **(Review of last lesson)** A bag has $5$ red discs and $3$ blue discs in it. Two discs are removed.

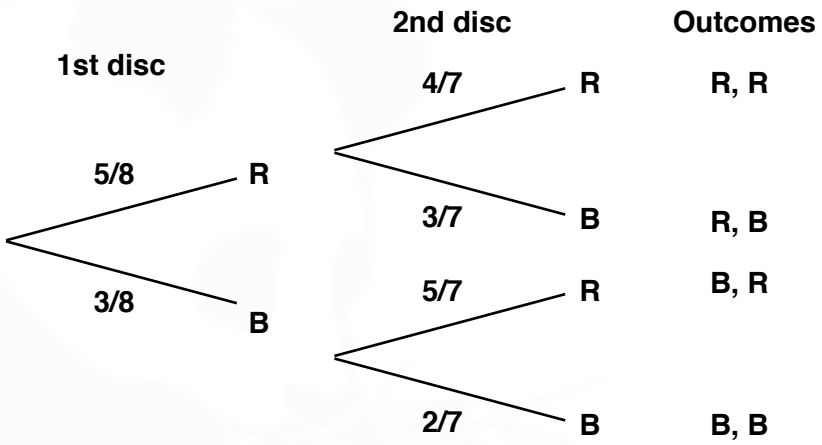
(a) Draw a tree diagram.

Find the probability of choosing

(b) $1$ red disc

(c) at least $1$ red disc

***Working:*** (a)




(b) $$\begin{aligned} P(\text{1 red disc}) &= P(R, B) + P(B, R) \\ &= \frac{5}{8} \times \frac{3}{7} + \frac{3}{8} \times \frac{5}{7} \\ &= \frac{15}{56} + \frac{15}{56} \\ &= \frac{30}{56} \\ &= \frac{15}{28} \end{aligned}$$

(c) $$\begin{aligned} P(\geq 1 \text{ red disc}) &= 1 - P(\text{no red discs}) \\ &= 1 - P(B, B) \\ &= 1 - \frac{3}{8} \times \frac{2}{7} \\ &= 1 - \frac{6}{56} \\ &= \frac{50}{56} \\ &= \frac{25}{28} \end{aligned}$$

**E.g. 1** A pie chart is to be drawn for this data. Calculate the angle for each category.

| Colour | Frequency |
|---|---|
| Red | 22 |
| Blue | 13 |
| Green | 19 |
| Yellow | 18 |

***Working:*** Total frequency $= 22 + 13 + 19 + 18 = 72$

**Red:**
$$\text{Angle} = \frac{\text{Frequency}}{\text{Total frequency}} \times 360^o$$
$$= \frac{22}{72} \times 360^o$$
$$= 110^o$$

The other angles can be calculated in a similar way

| Colour | Frequency | Angle |
|---|---|---|
| Red | 22 | $110^o$ |
| Blue | 13 | $65^o$ |
| Green | 19 | $95^o$ |
| Yellow | 18 | $90^o$ |

**Video:** Vertical line graphs
**Video:** Drawing pie charts
**Video:** Interpreting pie charts

Solutions to Starter and E.g.s

**Exercise**
p84 Ex 5.1 Qu 1-9

Textbook answers (only available during a lockdown)