Solutions

Award method and answer marks as indicated; accept equivalent correct methods.

2.1

- On the scale: **0** and **1**, respectively.

2.2

- Even outcomes are 2, 4, 6: $p = 3/6 = \mathbf{1/2}$.

2.3

- $q = 1 - p = 1 - 0.35 = \mathbf{0.65}$.

2.4

- $p = 6/15 = \mathbf{2/5}$; $p = \mathbf{40}\%$.

3.1

(a)

- $N = 14 + 11 - 5 = \mathbf{20}$.

(b)

- Neither count $n = 30 - 20 = 10$; $p = 10/30 = \mathbf{1/3}$.

(c)

- Exactly one count $n = (14 - 5) + (11 - 5) = 15$; $p = 15/30 = \mathbf{1/2}$.

3.2

(a)

- The multiples are **3, 6, 9, 12, 15, 18**.
- $p = 6/20 = \mathbf{3/10}$.
- Complement $q = 1 - p = \mathbf{7/10}$.

(b)

- There are 6 multiples of 3 and 4 of 5, with **15 counted twice**.
- Favourable count $n = 6 + 4 - 1 = 9$, so $p = 9/20 = \mathbf{0.45}$.

3.3

- The outcomes greater than 4 are 5 and 6: 2 of the 6 equally likely outcomes.
- $\mathbf{\frac{2}{6} = \frac{1}{3}}$.

3.4

(a)

- The probabilities add to 1: $1 - (0.35 + 0.4)$.
- **0.25**.

(b)

- 0.4 of the beads are blue, so the total is $8 \div 0.4 = \mathbf{20}$.