

## Solutions

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**2.1**  $18/60=0.3$ .

**2.2** Expected count= $np=200\times 0.3=60$ .

**2.3** Exhaustive separate outcomes sum to 1:  $p=1-0.3-0.45$ .

**3.1** False. For 100 independent fair-coin tosses, the expected heads count is 50, but 49 heads has positive probability. An expectation is an average over repetitions, not a guaranteed result.

Local review guidance: show the chosen method; give the checked result; explain the condition or failed shortcut. This is authored classroom guidance.