

INVESTIGATION ANSWERS**Performing Probability Experiments:**

- 1** $\frac{2}{6}$ (or $\frac{1}{3}$)
- 2** $\frac{4}{6}$ (or $\frac{2}{3}$)
- 3** 10 times; since the outcome 1 can be expected to occur $\frac{1}{6}$ of the time, I divided 60 rolls by 6.
- 4** 20 times; since each outcome can be expected to occur 10 times in 60 rolls, 2 outcomes can be expected to occur $10 + 10$, or 20 times.
- 5** See student work.
- 6** See student work.
- 7** See student work.
- 8** See student work.
- 9** Yes; region 2 is larger than region 1, and region 1 is larger than region 3.

10 Because region 2 is slightly smaller than $\frac{1}{2}$ (or $\frac{25}{50}$) of the spinner, $\frac{28}{50}$ overestimates the true probability of outcome 2.

- 11** See student work.
- 12** See student work.
- 13** 6 times
- 14** 12 times
- 15** 18 times
- 16** See student work.

Investigate Further:

- a** $\frac{1}{26}$; $\frac{5}{26}$; $\frac{21}{26}$
- b** A green tile was chosen $\frac{1}{2}$ of the time, so about 10 tiles should be green because $\frac{1}{2}$ of 20 is 10. A yellow tile was chosen $\frac{1}{10}$ of the time, so about 2 tiles should be yellow. A red tile was chosen $\frac{2}{5}$ of the time, so about 8 tiles should be red.