G9-Probability-Test

Multiple Choice (5 points each)

- 1. What is the probability of flipping a coin and landing on heads?
 - (A) $\frac{1}{2}$ (B) $\frac{1}{3}$ (C) $\frac{1}{4}$ (D) $\frac{3}{4}$
- 2. A bag contains 4 red, 3 blue, and 2 green balls. What is the probability of drawing a red ball?
 - (A) $\frac{2}{9}$ (B) $\frac{1}{3}$ (C) $\frac{4}{9}$ (D) $\frac{1}{2}$
- 3. In a deck of cards, what is the probability of drawing a spade?
 - (A) $\frac{1}{4}$ (B) $\frac{1}{2}$ (C) $\frac{1}{13}$ (D) $\frac{1}{8}$
- 4. If you roll a fair six-sided die, what is the probability of getting a number less than 5?
 - (A) $\frac{2}{3}$ (B) $\frac{1}{3}$

- (C) $\frac{1}{2}$ (D) $\frac{3}{4}$
- *Two dice are rolled. What is the probability that the sum of the numbers rolled is 8? (此為下一份教材 Compound event of probability 的內容,可以 自行選擇是否使用)
 - (A) $\frac{1}{12}$ (B) $\frac{5}{36}$ (C) $\frac{1}{8}$ (D) $\frac{1}{4}$

Open Ended(5 points each)

- 6. Explain what "probability" means using an example.
- 7. What does it mean if something is "likely"? Give an example of a likely event.
- 8. What does it mean if something is "as likely as not"? Give an example of an as likely as not event.

Short Response (5 points each)

- 9. Is it possible to roll a 7 on a standard six-sided die? Why or why not?
- 10. If you flip a coin, what is the probability of it landing on heads?
- 11. Calculate the probability of drawing a red card from a standard deck of 52 cards.

- 12. A box contains 5 red, 4 blue, and 3 green balls. What is the probability of drawing a blue ball?
- 13. If the probability of choosing a 1 from a standard six sided cube is _____, the probability of not choosing a 1 is _____.
- 14. If you spin a spinner divided into 4 equal sections numbered 1 through 4, what is the probability of landing on an odd number?
- 15. A bag contains *x* red and 15 blue balls. If the probability of drawing a red ball 2
 - is $\overline{5}$, what is the value of *x*? (**10 points**)

Reflection (10 points each)

- 16. Discuss a situation where understanding probability could help you make a decision.
- 17. Explain how knowing probabilities can help you understand everyday situations better.

Answer Key

- 1. (A)
- 2. (C)
- 3. (A)
- 4. (A)
- 5. (B)
- 6. Probability is the measure of how likely something is to happen. For example, flipping a coin has a probability of 0.5 for landing heads.
- In probability, the term "likely" refers to an event that has a high probability of occurring but is not guaranteed to happen. Typically, an event is considered likely if its probability is greater than 50% (or 0.5).

Rolling a number greater than 2 on a six-sided die is an example of a likely

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event, with a probability of 3

8. In probability, the phrase "as likely as not" refers to an event that has an equal chance of occurring or not occurring. This means the probability of the event happening is exactly 50% (or 0.5).

Flipping a coin and getting heads is an example of an "as likely as not" event, with a probability of 0.5.

- 9. No, because the highest number on a standard six-sided die is 6.
- 1
- 10. 2
- 1
- 11. 2
- $\frac{1}{2}$
- 12. 3 1 5
- $\frac{1}{6};\frac{5}{6}$
- 1
- 14. 2
- 15. x = 10
- 16. Answers will vary but should show an understanding of using probability in decision-making.
- 17. Knowing probabilities can help us understand how likely events are to occur, which can guide our choices in daily life.

補充

Vocabulary Review

- Probability (機率) Explanation: The measure of the likelihood that an event will occur.
- 2. Event (事件) Explanation: An outcome or a set of outcomes of an experiment.
- Outcome (結果) Explanation: A possible result of a probability experiment.
- 4. Likely (可能的) Explanation: An event that has a high probability of occurring.
- 5. Unlikely (不太可能的) Explanation: An event that has a low probability of occurring.
- Certain (必然的)
 Explanation: An event that will definitely happen.
- Impossible (不可能的)
 Explanation: An event that cannot happen.
- 8. Equally likely (同樣可能的) Explanation: Events that have the same probability of occurring.
- 9. Sample Space (樣本空間) Explanation: The set of all possible outcomes.
- 10. Fair (公平的) Explanation: An experiment or situation where all outcomes are equally likely.

Sentence Patterns (句型)

1. The probability of [event] is [probability].

Example: The probability of drawing a red ball is $\frac{\overline{9}}{4}$.

例子:抽到紅球的機率是9。

- What is the probability of [event]? Example: What is the probability of rolling a 4? 例子: 擲出 4 的機率是多少?
- There are [number] [items], [number] of which are [specific items]. What is the probability of drawing a [specific item]? Example: There are 10 balls, 4 of which are red. What is the probability of drawing a red ball?
 例子: 有 10 個球,其中 4 個是紅色的。抽到紅球的機率是多少?

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