Probability: 10 practice questions

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Name: _____ Date: _____

Attempt all questions and show your working. Suggested time: 15 to 20 minutes.

Section A: Consolidating (Questions 1-4)

Question 1

A standard six-sided die is rolled. List the sample space.

Question 2

A spinner has four equal sections coloured red, blue, green and yellow. What is the probability that it lands on green?

Question 3

A bag contains 3 red marbles and 5 blue marbles. One marble is chosen at random. What is the probability that it is red?

Question 4

A standard six-sided die is rolled. Give the probability of each event as a number and describe it as impossible, even chance or certain.

(a) Rolling a 7

(b) Rolling a number less than 7

(c) Rolling an even number

Section B: Standard (Questions 5-10)

Question 5

A standard six-sided die is rolled. Find the probability of rolling:

(a) an even number

(b) a number greater than 4

(c) a prime number

(d) a factor of 6

Question 6

The letters of the word AUSTRALIA are written on 9 cards, one letter per card. One card is chosen at random.

(a) List the different letters that could be chosen.

(b) Find the probability that the letter is A.

(c) Explain why the outcomes in part (a) are not all equally likely.

Question 7

The weather forecast gives a probability of 0.35 that it will rain tomorrow in Hobart. What is the probability that it will not rain?

Question 8

Twenty cards are numbered 1 to 20. One card is chosen at random. Find the probability, as a fraction in simplest form, that the number is:

(a) a multiple of 5

(b) a multiple of 3

(c) greater than 15

Question 9

A spinner is divided into four sectors with these angles at the centre: red 180°, blue 90°, green 60° and yellow 30°. Find the probability of landing on each colour.

Question 10

(a) A fair die is rolled 300 times. About how many times would you expect to roll a 5?

(b) A fair coin is tossed 80 times. About how many heads would you expect?

Probability: answers

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Question 1

Answer: {1, 2, 3, 4, 5, 6}

Question 2

Answer: ¼

Question 3

Answer: ⅜

Question 4

Answer: (a) 0, impossible (b) 1, certain (c) ½, even chance

Question 5

Answer: (a) ½ (b) ⅓ (c) ½ (2, 3, 5) (d) ⅔ (1, 2, 3, 6)

Question 6

Answer: (a) A, U, S, T, R, L, I (b) 3/9 = ⅓ (c) There are three A cards but only one card for each other letter, so A is more likely.

Question 7

Answer: 0.65 (1 - 0.35)

Question 8

Answer: (a) ⅕ (b) 3/10 (c) ¼

Question 9

Answer: Red ½, blue ¼, green ⅙, yellow 1/12 (each angle ÷ 360°)

Question 10

Answer: (a) 50 (⅙ × 300) (b) 40