

# 5.10 - Questions Handout #s 3 - 15

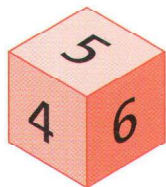
## Check Your Understanding

### Practise

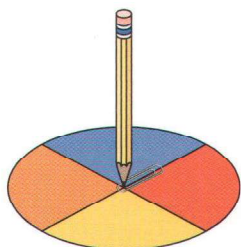
For help with questions 3 to 7, refer to Example 1.

3. In each situation, find the total number of outcomes and the number of favourable outcomes.

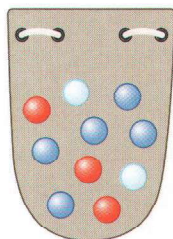
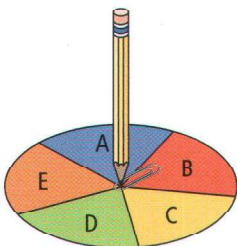
- a) tossing heads on a nickel      b) rolling a 5 on a number cube



- c) spinning blue on the spinner



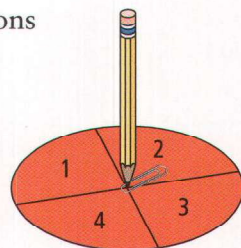
4. For each part in question 4, find the probability as a fraction.
5. In each situation, find the total number of outcomes and the number of favourable outcomes.
- a) spinning an A or a C on the spinner      b) choosing a white marble from the bag



6. For each part in question 5, find the probability as a fraction.

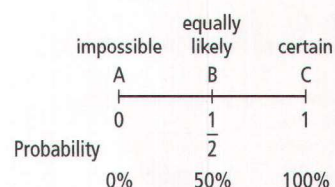
7. A spinner has four sections numbered 1 to 4.

- a) How many possible outcomes are there?  
 b) How many favourable outcomes are there for each number?  
 c) What is the probability of spinning a 4?  
 d) In 100 spins, how many times would you expect the spinner to land on 4?



For help with questions 8 to 12, refer to Example 2.

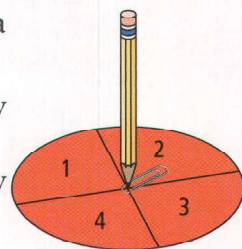
8. Match the probability of each situation with a letter on the number line.



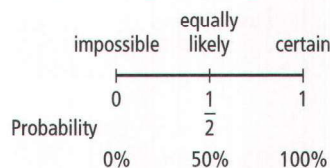
- a) the sun rising tomorrow  
 b) a coin landing tails up  
 c) February having 30 days

9. Find each probability as a fraction and as a percent.

- a) What is the probability of spinning a 5?  
 b) What is the probability of spinning an even number?  
 c) What is the probability of spinning *any* number from 1 to 4?



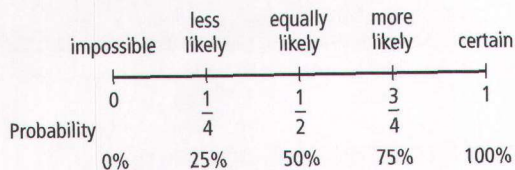
10. Use the number line to determine how likely each part of question 9 is.



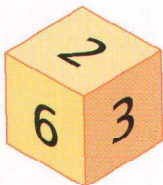


## Apply

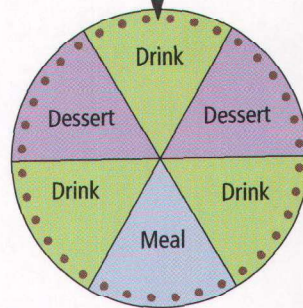
11. To introduce probability to his class, Mr. Ogg wrote each letter of the word PROBABILITY on a separate card and placed the cards face down.
- What is the probability of choosing the letter B?
  - What is the probability of choosing a consonant?
  - What is the probability of choosing a vowel?
  - Explain why the probability is different for different letters.
12. Candice challenged Melanie to determine the probability of a list of situations on a scale from 0 to 1. Locate each probability on the number line. Justify your reasoning.



- an ice cream cone melting on a summer day
  - rain on December 1st
  - snow on December 31st
  - a coin sinking in a pond
13. **a)** List two situations that are *impossible* (probability of 0, 0%).  
**b)** List two situations that are *equally likely* to happen (probability of  $\frac{1}{2}$ , 50%).  
**c)** List two situations that are *certain* to happen (probability of 1, 100%).
14. Consider a number cube.
- What is the probability of rolling an odd number?
  - What is the probability of rolling a 7?
  - What is the probability of rolling *any* number from 1 to 6?



15. Consider the birthday prize spinner of free items.



- Do you have an equal chance of winning each prize? Explain.
- Describe a situation that is *certain* to happen.
- Describe a situation that is *impossible*.
- Describe two situations that are *equally likely* to happen.

## Extend

16. To play their favourite board game, Manuel and Rob record the product of the numbers on two number cubes.
- List all the possible outcomes.
  - What is the probability of rolling a product of 20?
  - What is the probability of rolling an even product?
  - What is the probability of rolling an odd product?
  - What is the probability of rolling a product greater than 15?
  - Determine which products are most likely. Explain your reasoning.
17. Simon walked into class and was surprised to find a quiz. He had forgotten to study and had no knowledge of the content. He decided to use a coin toss to make his decisions.
- Explain why tossing a coin would be a good way to make a decision on a true-or-false quiz.
  - Explain how Simon could use a coin to answer a multiple choice question that has 4 possible choices.