

# Critical Thinking Exercises with Answers

These exercises are designed to challenge your critical thinking abilities and enhance your analytical skills.

## Exercise 1: Analyzing Arguments

Read the following argument and determine whether it is valid or invalid. Provide a brief explanation to support your answer.

"All cats have fur. Fluffy is a cat. Therefore, Fluffy has fur."

**Answer:** Valid. The argument follows the logical structure of a categorical syllogism, where the conclusion logically follows from the premises.

## Exercise 2: Identifying Assumptions

Identify the underlying assumptions in the following scenario and explain why they are important to consider.

"John is always late to work. Therefore, he must be lazy."

**Answer:** Assumption: Being late to work is solely due to laziness. It's important to consider assumptions because they can influence our interpretations and conclusions, leading to potential biases or inaccuracies.

## Exercise 3: Evaluating Evidence

Evaluate the credibility of the following evidence and explain your reasoning.

"According to a survey conducted by XYZ Research, 90% of participants prefer Product A over Product B."

**Answer:** The evidence appears credible as it cites a specific source (XYZ Research) and provides quantitative data (90% preference). However, it's important to consider factors such as sample size, methodology, and potential biases in the survey.

## Exercise 4: Problem-Solving

Solve the following problem and explain your approach to reaching the solution.

"A train leaves Station A traveling at 60 mph. Another train leaves Station B traveling at 75 mph. If Station B is 150 miles away from Station A, how long will it take for the trains to meet?"

**Answer:** To solve this problem, we can use the formula Distance = Rate × Time. Let  $t$  be the time it takes for the trains to meet. For Train A, the distance traveled is  $60t$ , and for Train B, the distance traveled is  $75t$ . Since the total distance is 150 miles, we have the equation  $60t + 75t = 150$ . Solving for  $t$ , we get  $t = 2$  hours.

## Exercise 5: Drawing Conclusions

Draw a logical conclusion based on the information provided in the following scenario.

"All mammals are warm-blooded. Dogs are warm-blooded animals. Therefore, dogs are mammals."

**Answer:** The conclusion is logically valid as it follows the principle of categorical syllogism, where the conclusion follows logically from the premises.