

dMAT General Academic Module

Business, Economics & Social Sciences Practice Set

10 practice questions on reasoning, calculation, and identifying weaknesses in arguments

Format: 10 questions, single-choice, four options each | Recommended time: 12 minutes | Some questions ask you to calculate an outcome; others ask you to spot a flaw in the reasoning given.

- For calculation questions, work out the before-and-after values rather than assuming an outcome.
- For reasoning questions, look specifically for claims that confuse correlation with causation.
- Answers and full explanations are on the last page.

Question 1

A cafe sells 150 cups of coffee a day at 40 per cup. It raises the price to 45, and daily sales fall to 140 cups. Did the price increase improve daily revenue?

- (a) No, revenue fell
- (b) Yes, revenue increased
- (c) Revenue stayed exactly the same
- (d) It cannot be determined from this data

Question 2

A company's production cost stays at 60% of its selling price in both Year 1 and Year 2, but the selling price itself rose from Year 1 to Year 2. What happened to the profit per unit?

- (a) Profit per unit decreased
- (b) Profit per unit stayed exactly the same
- (c) Profit per unit increased
- (d) Profit per unit cannot be determined from this information

Question 3

A survey finds that employees with flexible working hours report 85% job satisfaction, versus 60% for employees without flexible hours. A report claims this proves flexible hours cause higher satisfaction. What is the main weakness in this conclusion?

- (a) The survey sample was too small to be valid
- (b) It assumes a relationship proves cause and effect
- (c) Job satisfaction cannot be measured through surveys
- (d) Flexible hours are only offered to senior employees

Question 4

A retailer's loyalty programme members spend an average of 220 per month, compared to 150 for non-members. A manager claims this proves the programme causes higher spending. What is the main weakness in this claim?

- (a) Members might already have been bigger spenders before joining
- (b) Loyalty programmes always increase spending
- (c) 150 and 220 are too close to compare meaningfully

- (d) Non-members cannot be surveyed accurately

Question 5

A country's GDP grows by 4% while its unemployment rate falls by 1% over the same year. Which conclusion is most directly supported by this data?

- (a) GDP growth and falling unemployment occurred in the same period
- (b) GDP growth caused the fall in unemployment
- (c) Unemployment will keep falling as long as GDP grows
- (d) The relationship applies equally to every country

Question 6

Website A converts 3% of visitors into customers, and Website B converts 5%, tested with the same amount of traffic. A manager concludes Website B's design is definitely better. What should be checked before accepting this conclusion?

- (a) Whether the test ran long enough and with enough visitors to be statistically reliable
- (b) Whether Website A is older than Website B
- (c) Whether both websites use the same font
- (d) Nothing further needs to be checked

Question 7

A company increases its advertising spend by 20%, and sales rise by 5% in the same period. A manager claims the advertising caused nearly all of the sales increase. What is the main weakness in this claim?

- (a) A 5% rise is too small to be measured accurately
- (b) Other factors could also explain the sales increase, not just advertising
- (c) Advertising spend and sales are always unrelated
- (d) The 20% increase in spending was too small to have any effect

Question 8

In a survey, 90% of remote employees report high productivity in their own self-assessment. A report concludes remote work definitely increases productivity. What is the main weakness in this conclusion?

- (a) Self-reported assessments may not reflect actual productivity accurately
- (b) 90% is not a high enough percentage to draw conclusions
- (c) Remote employees cannot be surveyed reliably
- (d) Productivity cannot be defined in any survey

Question 9

Housing prices in a district doubled after a new metro line opened nearby. A news article claims the metro line caused the price increase. What is the main weakness in this claim?

- (a) Metro lines never affect property prices
- (b) Other factors, such as rising incomes or demand, could also explain the increase
- (c) Housing prices cannot double in any real market
- (d) The metro line's construction cost is irrelevant to this claim

Question 10

A study finds that students who attend tutoring score 15% higher on average than those who do not. A report concludes tutoring directly causes better scores. What is the main weakness in this conclusion?

- (a) 15% is too small a difference to matter
- (b) More motivated students may be the ones who choose to attend tutoring in the first place
- (c) Tutoring has no measurable effect on any student
- (d) Test scores cannot be compared across different students

Answer Key & Explanations

Question 1 Answer: (b) Yes, revenue increased

Before: $150 \times 40 = 6,000$. After: $140 \times 45 = 6,300$. Revenue rose by 300, so the price increase did improve revenue despite fewer cups sold.

Question 2 Answer: (c) Profit per unit increased

If cost stays at 60% of a higher selling price, the remaining 40% margin is also calculated on a larger number, so profit per unit increases in absolute terms.

Question 3 Answer: (b) It assumes a relationship proves cause and effect

The survey shows a relationship between flexible hours and satisfaction, but it does not prove one causes the other. Other factors, like seniority or role type, could influence both.

Question 4 Answer: (a) Members might already have been bigger spenders before joining

Loyalty programme members may have already been bigger spenders before joining, a form of selection bias, so the comparison does not prove the programme itself caused the higher spending.

Question 5 Answer: (a) GDP growth and falling unemployment occurred in the same period

The data only establishes that both trends occurred in the same period. It does not, on its own, prove that one caused the other, or predict future behaviour.

Question 6 Answer: (a) Whether the test ran long enough and with enough visitors to be statistically reliable

Before concluding one website is 'better', you need to confirm the test had enough traffic and ran long enough for the difference to be statistically meaningful, not just numerically different.

Question 7 Answer: (b) Other factors could also explain the sales increase, not just advertising

A 5% sales rise alongside a 20% ad spend increase could be explained by many other factors (seasonality, pricing, competitor activity), so attributing 'nearly all' of it to advertising overstates what the data shows.

Question 8 Answer: (a) Self-reported assessments may not reflect actual productivity accurately

Self-assessed productivity is a subjective, self-reported measure and may not reflect actual output, so it cannot reliably support a strong causal claim about remote work.

Question 9 Answer: (b) Other factors, such as rising incomes or demand, could also explain the increase

Rising incomes, increased housing demand, or other local developments could also explain the price increase, not just the metro line alone.

Question 10 Answer: (b) More motivated students may be the ones who choose to attend tutoring in the first place

Students who choose to attend tutoring may already be more motivated or academically engaged, meaning the tutoring itself may not be the sole or main cause of their higher scores.