

UCAT Quantitative Reasoning Practice Paper 1

Quantitative Reasoning

36 questions · 26 minutes · On-screen calculator allowed

How to use this booklet

- There are nine scenarios, each with a table or chart and four questions. Each question has five options (A to E); choose the one best answer.
- Where a question gives a number of decimal places, answer to that precision. Round only at the end of a calculation.
- You have 26 minutes. There is no penalty for incorrect answers, so answer every question. A calculator is allowed.

QUANTITATIVE REASONING — 36 QUESTIONS

26 minutes

Do not spend too long on any one scenario. Use the data in each table or chart; units are shown in the question or the table.

Scenario 1

The table shows the number of units sold by a shop in each quarter of one year.

Product	Q1	Q2	Q3	Q4
Scarves	660	500	840	930
Hats	220	260	390	560
Boots	150	660	740	220
Gloves	440	570	890	920

1. What percentage of the total sales across all products and quarters was Gloves? (1 dp)

- A 96.2%
- B 126.0%
- C 81.5%
- D 25.0%
- E 31.5%

2. By what percentage did sales of Gloves change from Q1 to Q2? (1 dp; give a decrease as a negative number)

- A 34.5%
- B 29.5%
- C 130.0%
- D 129.5%
- E 22.8%

3. What was the mean quarterly sales figure of the product with the highest annual total? (1 dp)

- A 559.4
- B 976.7
- C 357.5
- D 732.5
- E 2930.0

4. Each unit of Gloves sold for \$450. What was the total revenue from Gloves over the year, in \$ thousands? (1 dp)

- A \$414.0k
- B \$1269.0k
- C \$1,269,000
- D \$317.3k
- E \$12690.0k

Scenario 2

A decorator is preparing to paint a room and fit a water tank in its loft.

5. A room is 6 m long, 5 m wide and 2.4 m high. It has one door of 1.9 m² and one window of 1.8 m². What area of wall needs painting (excluding the ceiling and floor)? (1 dp, m²)

- A 49.1 m²
- B 52.8 m²
- C 72.0 m²
- D 45.4 m²
- E 26.3 m²

6. One litre of paint covers 15 m². The walls need 3 coats. How many litres of paint are needed? (2 dp)

- A 3.27 L
- B 10.56 L
- C 8.66 L
- D 9.82 L
- E 10.32 L

7. Paint is sold only in tins of 5.0 litres at £18.50 each. What is the cheapest cost of enough paint for the 3 coats?

- A £181.67
- B £37.00
- C £18.50
- D £55.50
- E £36.33

QUANTITATIVE REASONING — 36 QUESTIONS

Answers & worked solutions

Answer Key

1 E	2 B	3 D	4 B	5 A	6 D
7 B	8 C	9 D	10 D	11 C	12 C
13 A	14 C	15 B	16 B	17 A	18 E
19 E	20 C	21 A	22 A	23 C	24 B
25 E	26 D	27 A	28 A	29 C	30 E
31 E	32 D	33 E	34 B	35 A	36 D

Scenario 1: The table shows the number of units sold by a shop in each quarter of one year.

1. What percentage of the total sales across all products and quarters was Gloves? (1 dp)
[Percentage of a total]

Product	Q1	Q2	Q3	Q4
Scarves	660	500	840	930
Hats	220	260	390	560
Boots	150	660	740	220
Gloves	440	570	890	920

Correct answer: E — 31.5%

- Total for Gloves = $440 + 570 + 890 + 920 = 2820$.
- Total for all products = 8950.
- Percentage = $2820 \div 8950 \times 100 = 31.5\%$.
- Why the other options are wrong:
 - A (96.2%): This divides by the best-selling product's total instead of the grand total.
 - B (126.0%): This divides by the average product total instead of the grand total.
 - C (81.5%): This divides by the first half-year total only.
 - D (25.0%): This assumes each product sells an equal share.

LOS: Quantitative reasoning

KEY TAKEAWAY

A share of a total is $\text{part} \div \text{whole} \times 100$; make sure the whole is the total of everything, not another part.

2. By what percentage did sales of Gloves change from Q1 to Q2? (1 dp; give a decrease as a negative number) [Percentage change]

Correct answer: B — 29.5%

- Change = $570 - 440 = 130$.
- Percentage change = $130 \div 440 \times 100 = 29.5\%$.
- Why the other options are wrong: