



Test Papers
Hub.

NSW Selective Practice Paper 1

Mathematical Reasoning

35 questions · 5 options each (A–E) · 40 minutes · No calculator

How to use this booklet

- There are 35 questions in this paper. For each question there are five possible answers, A, B, C, D and E. Choose the one correct answer.
- You will not lose marks for incorrect answers, so attempt all 35 questions.
- Calculators are not allowed. You have 40 minutes. You may do rough working on the paper.

MATHEMATICAL REASONING — 35 QUESTIONS

Multiple choice · 40 minutes

Work through the questions in order, but do not spend too long on any one. Mark your best answer for every question, then check your work against the worked solutions.

1. What is the value of $12 + 12 \times (16 - 4) \div 2$?

- A 144
- B 84
- C 94
- D 202
- E 79

2. A machine prints 1.5 metres of fabric every minute. How many centimetres of fabric does it print every second?

- A 150 cm
- B 0.025 cm
- C 9000 cm
- D 90 cm
- E 2.5 cm

3. Juice boxes are sold in three packs: Pack A of 8 for \$10.12; Pack B of 10 for \$21.49; Pack C of 15 for \$19.68. Which pack has the LOWEST price per item?

- A They all cost the same per item
- B Pack C
- C Pack A
- D Pack B
- E It cannot be worked out

4. A jacket costs \$400. The shop raises the price by 50% and then, in a sale, reduces the NEW price by 15%. What is the final price?

- A \$510
- B \$600
- C \$90
- D \$540
- E \$340

5. On a hike, Omar walks $\frac{1}{2}$ of the track before lunch and then $\frac{2}{5}$ of the track that is LEFT after lunch. 30 km remain. How long is the whole track in kilometres?

- A 300
- B 110
- C 60
- D 100
- E 50

6. Trains leave a station every 18 minutes, starting at 6:14 am. Vic arrives at the station at 8:47 am. At what time did the most recent train before Vic arrived leave?

- A 8:47 am
- B 8:29 am
- C 8:56 am
- D 8:20 am
- E 8:38 am

7. A staircase shape is made from 6 steps. Each step is 5 cm wide and 4 cm high, and the staircase starts at the bottom left corner of a rectangle that is 30 cm wide and 24 cm high. What is the perimeter, in centimetres, of the staircase shape?

- A 108
- B 120
- C 54
- D 48
- E 118

MATHEMATICAL REASONING — 35 QUESTIONS

Answers & worked solutions

Answer Key

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

1. What is the value of $12 + 12 \times (16 - 4) \div 2$? [Order of operations]

Correct answer: B — 84

- Brackets first, then multiplication and division from left to right, then addition and subtraction.
- Working: $12 + 12 \times (16 - 4) \div 2 = 84$.
- Why the other options are wrong:
- A (144): This works strictly left to right and ignores 'multiply and divide before add and subtract'.
- C (94): This is the correct answer (84) plus 10; an extra 10 was added at the end of the calculation (an off-by-10 error).
- D (202): This ignores the brackets, which must be done first.
- E (79): Check each step again: one operation was applied in the wrong order.

LOS: NSW Mathematics K-10 (Stages 3-4), Number and Algebra

KEY TAKEAWAY

Work in the order: brackets, then $\times$ and $\div$ (left to right), then $+$ and $-$ (left to right).

2. A machine prints 1.5 metres of fabric every minute. How many centimetres of fabric does it print every second? [Units and rates]

Correct answer: E — 2.5 cm

- $1.5 \text{ m} = 150 \text{ cm}$ per minute.
- Per second: $150 \div 60 = 2.5 \text{ cm}$.
- Why the other options are wrong:
- A (150 cm): This is centimetres per minute.
- B (0.025 cm): This is metres per second, not centimetres.
- C (9000 cm): The conversion went the wrong way.
- D (90 cm): This is metres per hour, or the conversion went the wrong way.

LOS: NSW Mathematics K-10 (Stages 3-4), Measurement and Space