

EduTest Year 8 Entry Practice Paper 1

Numerical Reasoning

50 questions · 5 options each (A–E) · 30 minutes · No calculator

How to use this booklet

- There are 50 questions in this section. For each question there are five possible answers, A, B, C, D and E. Choose the one correct answer.
- This is an ability test: it checks how well you spot patterns and reason with numbers, not formulas you have memorised. Work swiftly.
- Calculators are not allowed. You have 30 minutes. You will not lose marks for wrong answers, so attempt every question.

NUMERICAL REASONING — 50 QUESTIONS

Multiple choice · 30 minutes

Work through the questions in order. If a question stalls you, move on and come back. Then check your work against the worked solutions.

1. 50 is to 10 as 40 is to ____ .

- A 9
- B 10
- C 7
- D 0
- E 8

2. In this number pyramid, each brick is the SUM of the two bricks directly below it. The bottom row is 6, 9, 5. What number goes at the top?

- A 28
- B 30
- C 20
- D 29
- E 15

3. The temperature at noon is -10°C . It drops by 9 degrees by evening and then rises by 13 degrees overnight. What is the temperature then?

- A -32
- B 12
- C -6
- D -7
- E -5

4. I think of a number, multiply it by 3, then add 25. The answer is 49. What number did I think of?

- A 7
- B 8
- C 24
- D 9
- E 10

5. 30 is to 70 as 23 is to ____ .

- A 64
- B 62
- C 66
- D 103
- E 63

6. The table shows how many passengers a ferry carried each trip. Each passenger pays \$2. What was the total fare revenue?

Trip	Passengers
Mon	29
Tue	31
Wed	16
Thu	10

- A 172
- B 86
- C 174
- D 248
- E 170

7. What is the remainder when 397 is divided by 13?

- A 6
- B 30
- C 13
- D 7
- E 8

8. 8 is to 56 as 14 is to ____ . What number completes the pair?

- A 112
- B 98
- C 105
- D 84
- E 62

NUMERICAL REASONING — 50 QUESTIONS

Answers & worked solutions

Answer Key

1	E	2	D	3	C	4	B	5	E	6	A
7	D	8	B	9	C	10	E	11	B	12	B
13	C	14	A	15	B	16	C	17	B	18	A
19	A	20	B	21	E	22	A	23	D	24	B
25	B	26	E	27	D	28	A	29	E	30	A
31	C	32	D	33	D	34	B	35	C	36	D
37	E	38	D	39	A	40	C	41	C	42	A
43	C	44	E	45	D	46	C	47	E	48	D
49	E	50	A								

1. 50 is to 10 as 40 is to ____ . [Analogies]

Correct answer: E — 8

- Compare 50 and 10: $50 \div 5 = 10$.
- The rule is $\div 5$.
- $40 \div 5 = 8$.
- Why the other options are wrong:
 - A (9): This is the correct answer (8) plus 1: an extra 1 was added at the end of the calculation (an off-by-1 error).
 - B (10): Divide by exactly 5.
 - C (7): This is the correct answer (8) minus 1: 1 was taken off at the end of the calculation (an off-by-1 error).
 - D (0): The first pair divides; the gap isn't fixed.

LOS: Numerical reasoning: [analogies]

KEY TAKEAWAY

A pair can shrink by a fixed factor: look for division as well as subtraction.

2. In this number pyramid, each brick is the SUM of the two bricks directly below it. The bottom row is 6, 9, 5. What number goes at the top? [Number pyramids]

Correct answer: D — 29

- Middle row: $6 + 9 = 15$ and $9 + 5 = 14$.
- Top = $15 + 14 = 29$.
- Why the other options are wrong: