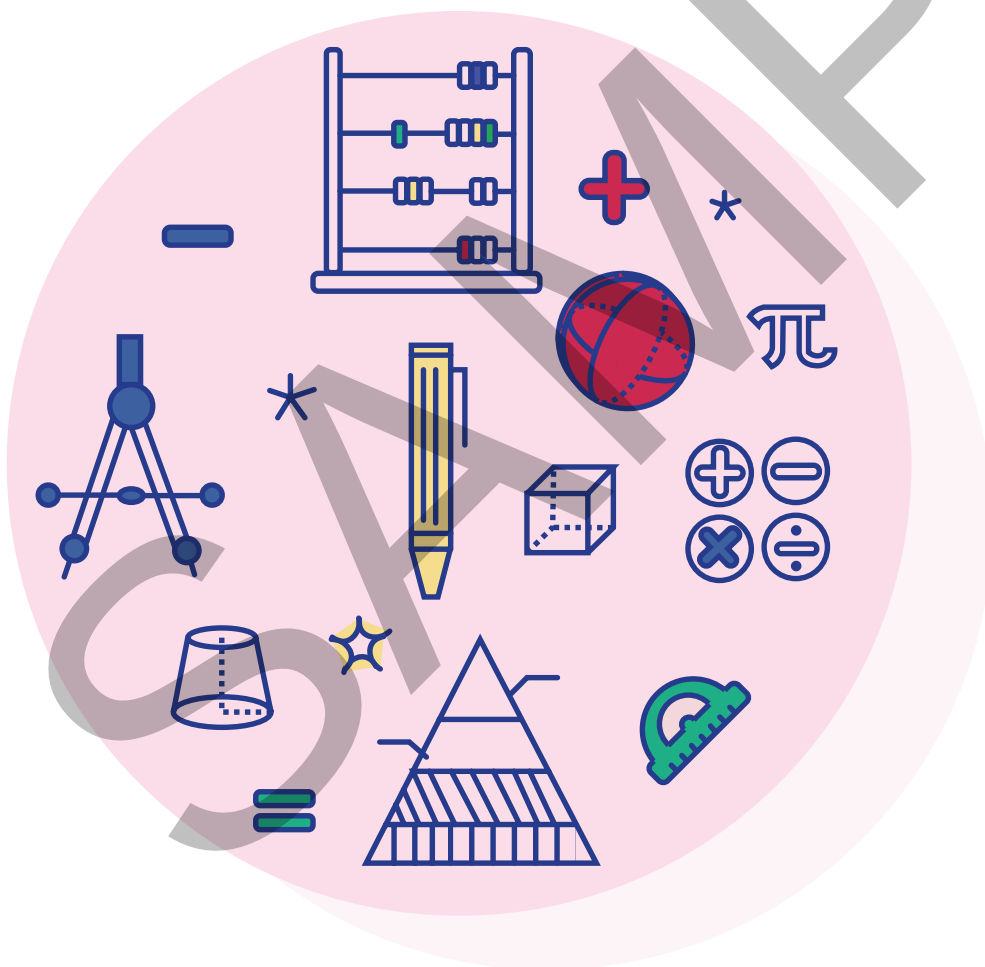


ESSENTIAL SELECTIVE

MATHEMATICAL REASONING

5 Mathematical Reasoning Test Papers

REVISED EDITION



RAY LEE | JIMMY LIU

BOOK **3**

To Cookie, my light,
and to Phoebe who I hope
can one day figure out all the questions in this book.

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First Published 2023

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Lee, Ray and Liu, Jimmy

Essential Selective
Mathematical Reasoning Book 3
Revised Edition
ISBN 978-1-76032-536-7

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- 1** A ship's sails are blowing in the South Westerly direction. Which direction is the wind blowing from?
- A** North
 - B** South West
 - C** North East
 - D** North West
 - E** South East
- 2** Dennis bought 3 toy cars and a doll, which in total cost him \$4.20. Andrew bought three dolls and one toy car, which cost him \$3.80. How much would one toy car and two dolls cost?
- A** \$1.80
 - B** \$2.10
 - C** \$0.90
 - D** \$2.90
 - E** \$3.10
- 3** Luke cycled along a circuit. After completing one lap he sped up to complete a second lap. The total time was 12 minutes. If he had not sped up and kept the same pace for the second lap, his time would be 16 minutes. If he had completed both laps at a faster pace, what would his time be?
- A** 10 minutes
 - B** 4 minutes
 - C** 8 minutes
 - D** 2 minutes
 - E** 6 minutes

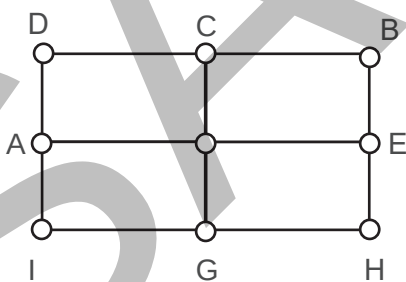
- 4 In a particular school there are 10 boys for every 7 girls. If there are forty-two girls, how many boys are there?

A 30
B 40
C 45
D 50
E 60

- 5 A dinner between four friends costs \$39.00. Thornton paid two-thirds the amount Neil did, which was three quarters of Troy's contribution. Jessie paid twice as much as Thornton. Who paid the most?

A Troy
B Neil and Thornton
C Jessie
D Jessie and Troy
E Neil

- 6 Grant is at Position G facing C. He walks forward and makes a 270° turn to the right to reach the next and final position. What is his final position?



A A
B E
C I
D C
E B

- 7 Choose the symbol that replaces the question mark in this statement.

$$18 \div 6 \times 8 \div (6 ? 3) = 12$$

- A +
- B -
- C $\times$
- D $\div$
- E none of above

- 8 D, C, B and A are four points on a line, in order from left to right.

$$AD = 6.1\text{cm. } BD = 4.8\text{cm } CD = 1.9\text{cm.}$$

What is the distance between B and A?

- A 2.0cm
- B 1.8cm
- C 1.3cm
- D 5.4cm
- E 10.8cm

- 9 When two consecutive numbers are multiplied, the answer is 306.

Which is the odd number?

- A 15
- B 19
- C 17
- D 21
- E 23

- 10 Jeremy bought a new car. He then sold it 2 years later at 60% of its original value. If he sold the car for \$7 200, what was the original price?

A \$12 000
B \$10 000
C \$9 000
D \$14 000
E \$21 000

- 11 In a group of Year 9 students, the ratio of boys to girls is 9 : 7.

There are 4 more boys than girls in this group.

How many students are in this group altogether?

A 16
B 18
C 20
D 32
E 48

- 12 Here are four steps in a number pattern.

1. $3 + 4 = 7$
2. $7 + 8 = 15$
3. $15 + 16 = 31$
4. $31 + 32 = 63$

Which one of these is **not** from the same pattern?

A $63 + 64 = 127$
B $511 + 512 = 1023$
C $407 + 408 = 815$
D $127 + 128 = 255$
E $255 + 256 = 511$

Selective Practice Test Answers

Mathematical Reasoning 11

Question	Answer	Explanation
1	C	If the ship's sails are blowing south west, the wind must be coming from the opposite direction, north east
2	D	Toy car: \$1.10 Doll: \$0.90
3	C	The fast rate is 4 minutes a lap, the slower is 8 minutes a lap. There are two laps, so his time would be $4+4=8$
4	E	$42/7 = 6$ $6 \times 10 = 60$
5	D	Jessie and Troy paid the same amount Thomton (\$6), Neil (\$9), Jessie (\$12), Troy (\$12)
6	A	He walks forward then turns 270 degrees which points A. He then reaches A for his final position.
7	D	$18/6 = 3$. $3 \times 8 = 24$. $24/2 = 12$. Therefore it must be $6/3 = 2$
8	C	$6.1 - 4.8 = 1.3$
9	C	Guess and check
10	A	$7200 \times 100/60$
11	D	18 boys and 14 girls
12	C	Keep following the patten. First plus next= third.