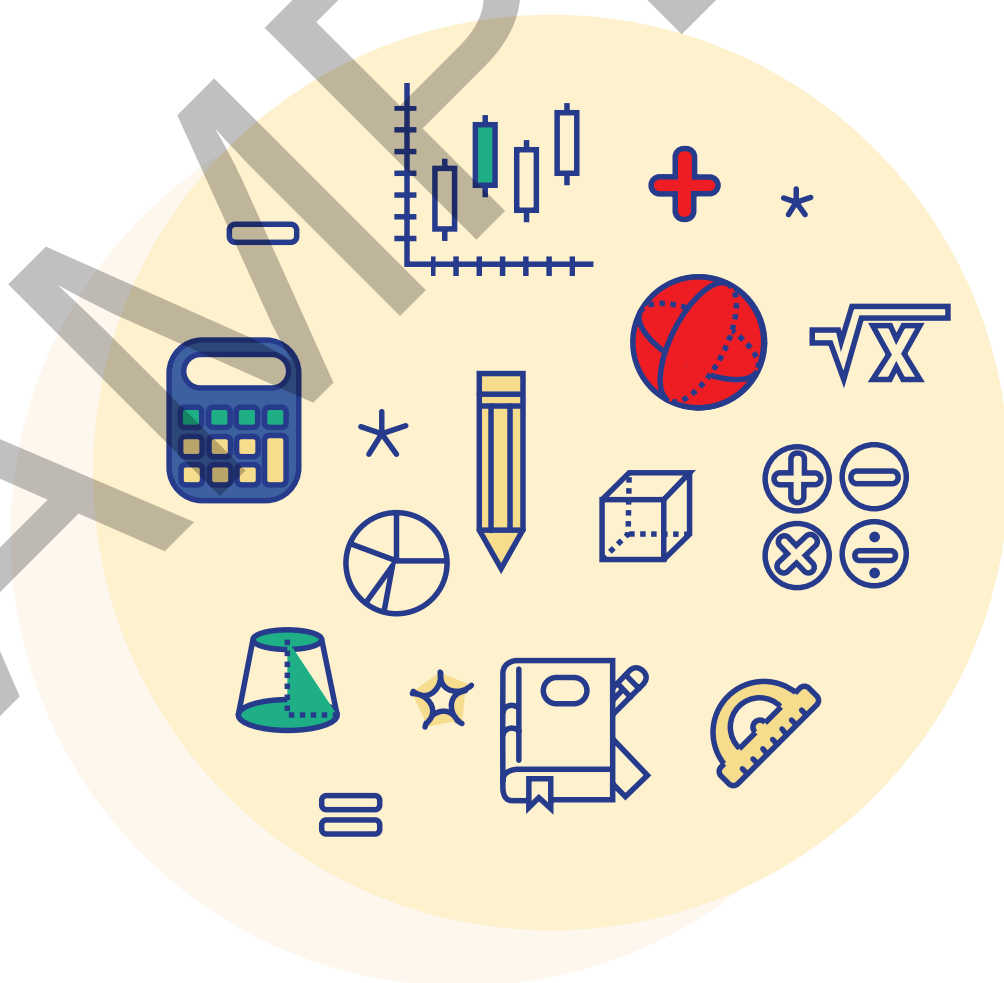


ESSENTIAL

OPPORTUNITY CLASS

MATHEMATICAL REASONING

5 Mathematical Reasoning Test Papers



BOOK **2**

RAY LEE | JIMMY LIU

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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Lee, Ray and Liu, Jimmy

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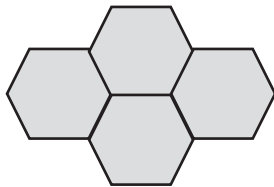
- 1 The factors of 6 are 1, 6, 2 and 3.

Which of these numbers has the most factors?

- A 12
- B 15
- C 16
- D 19
- E 21

- 2 Harry had four tiles.

He joined the tiles together with no gaps or overlaps to make the following shape.



What is the number of edges Harry's new shape have?

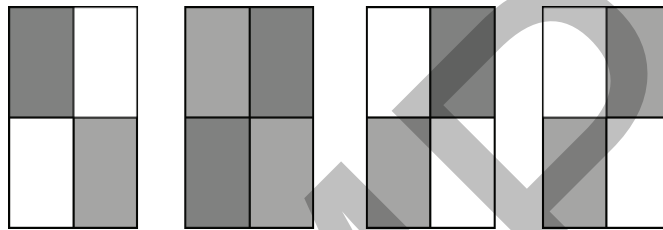
- A 12
- B 14
- C 16
- D 18
- E 20

- 3 Which number will come next in this sequence?

1	2	4	5	25	26	?
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- A 512
B 576
C 676
D 812
E 1002

- 4 What fraction is shaded?



- A $\frac{4}{8}$
B $\frac{12}{16}$
C $\frac{5}{6}$
D $\frac{3}{6}$
E $\frac{5}{8}$

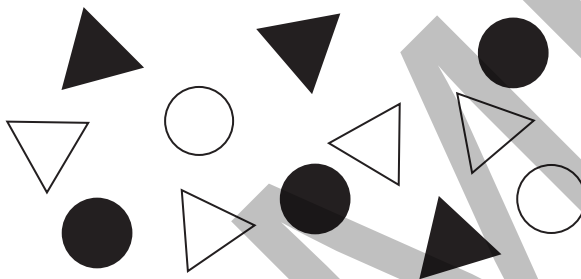
- 5 Jessica is using a number code to represent letters. Each letter is shown by a number. This is how Jessica would code the word “TODAY”:

T O D A Y
20 – 15 – 04 – 01 – 25

How should Jessica code the word “WATER”?

- A 23 – 01 – 19 – 20 – 18
B 23 – 01 – 20 – 05 – 18
C 23 – 01 – 20 – 19 – 18
D 23 – 01 – 20 – 18 – 19
E 23 – 01 – 18 – 05 – 20

- 6 The picture shows some shapes.



Bill picks one of the shapes without looking. What is he most likely to pick?

- A a circle
B a triangle
C a black shape
D a white shape
E a white triangle

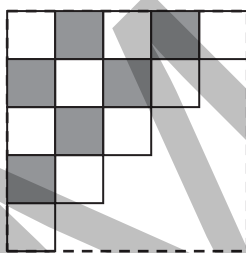
- 7 When Jason started primary school he was 120 cm tall.

When Jason finished primary school he was 160 cm tall.

By how much has Jason's height increased?

- A $\frac{3}{4}$ of 160 cm
B $\frac{1}{2}$ of 120 cm
C $\frac{1}{4}$ of 120 cm
D $\frac{2}{3}$ of 120 cm
E $\frac{1}{3}$ of 120 cm

- 8 Trisha started to make a square using a pattern of dark and white tiles.

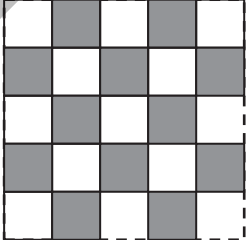


How many MORE white tiles does she need to complete the square?

- A 6
B 5
C 4
D 3
E 2

OC Practice Test Answers

Mathematical Reasoning 6

Question	Answer	Explanation
1	A	Factors of 12: 1,2,3,4,6,12 Factors of 15: 1,3,5,15 Factors of 16: 1,2,4,8,16 Factors of 19: 1,19 Factors of 21: 1,3,7,21
2	B	
3	C	Add one then square the number.
4	E	10 out of 16 = $\frac{5}{8}$
5	B	A(1) B(2) C(3) D(4) E(5) F(6) G(7) H(8) I(9) J(10) K(11) L(12) M(13) N(14) O(15) P(16) Q(17) R(18) S(19) T(20) U(21) V(22) W(23) X(24) Y(25) Z(26)
6	B	a circle: 5 a triangle: 7 a black shape: 6 a white shape: 6 a white triangle: 4
7	E	Jason's height increased by 40 cm $\frac{1}{3}$ of 120 cm = 40 cm
8	C	
9	A	$3 \times \$45\ 000 = \$135\ 000$
10	C	$135\ 000 + 120\ 000 + 80\ 000 + 100\ 000 = 435\ 000$