8 Workbook Maths

Lower Secondary

Authors

Andy Susanto | Veronica Dale

prime PUBLICATIONS

yudhistira©

Anggota IKAPI

8 Workbook Maths Lower Secondary

Published by Yudhistira Ghalia Indonesia
Co–Published with PRIME Publications

In collaboration with Goyal Brothers Prakashan
New Delhi, India

Authors
Andy Susanto
Veronica Dale

Series Editor
Virgy Elmariza

Graphic Designer
Khofifah Widyani

Cover Designer
Firlan Maulana

First Printing
December 2025
ISBN: 978-623-518-805-8

Introduction

Welcome to **Maths Lower Secondary 8: Workbook**. This workbook supports the coursebook by providing focused exercises that help students strengthen their understanding of the concepts they have learnt.

The exercises encourage students to apply ideas, explore strategies, and build confidence as they work through each set of questions. The exercises are designed to develop key skills such as problem-solving, reasoning, critical thinking, and help with real-life applications. The questions lead students to think carefully, explain their steps, and deepen their understanding of how mathematical concepts are used.

We hope this workbook becomes a reliable companion throughout the learning process, helping students to practise independently, reflect on their progress, and become more confident in using mathematics in their daily life.

— The Publisher

Contents

Chapter 1

Number Patterns

1. Tick (✓) the correct answer.

a. Given the number sequence 3, 8, 13, 18, …. The next three numbers in the sequence are _____.

- ◯ 23, 28, 33
- ◯ 23, 30, 35
- ◯ 23, 29, 34
- ◯ 23, 30, 37

b. 2, 8, 12, 20, …. The number sequence follows the shape of a _____.

- ◯ cube
- ◯ rectangle
- ◯ square
- ◯ triangle

c. Given the number sequence 5, 8, 11, 14, 16, 17, 19, 20. In order for the above sequence to form a consistent pattern, the two numbers should be _____.

- ◯ 5 and 11
- ◯ 16 and 19
- ◯ 14 and 16
- ◯ 17 and 20

d. Given the number sequence 7, 11, …, 19, …, 27, 31. In order for the above sequence to form a consistent pattern, the two numbers should be _____.

- ◯ 5 and 11
- ◯ 16 and 19
- ◯ 14 and 16
- ◯ 17 and 20

e. Given the number pattern 30, 27, 23, 18, …, …. The sum of the next three numbers in this pattern is _____.

- ◯ 14
- ◯ 18
- ◯ 16
- ◯ 20

2. Read the text below and tick the correct answer.

In a theatre there are 10 rows of seats arranged in a certain pattern. The first row has 5 seats, the second row has 7 seats, the third row has 9 seats, and so on, where each row behind always has 2 more seats than the previous row.

a. Based on the information above, the number of seats in the 9th row is _____.

- ◯ 20 seats
- ◯ 22 seats
- ◯ 21 seats
- ◯ 23 seats

b. The number of seats in the 7th row and the 9th row is _____.

- ◯ 42 seats
- ◯ 38 seats
- ◯ 40 seats
- ◯ 36 seats

c. The total number of seats needed up to the 10th row is _____.

- ◯ 120 seats
- ◯ 160 seats
- ◯ 140 seats
- ◯ 180 seats

3. Draw the next three patterns from the object configuration shown below.

a.

b.

c.

d.

e.

4. Write the next three numbers in each of the following number sequences.

a. 3, 7, 11, 15, _____, _____, _____

b. 2, 5, 8, 11, _____, _____, _____

c. 1, 4, 7, 10, _____, _____, _____

d. 5, 10, 15, 20, _____, _____, _____

e. 7, 15, 23, 30, _____, _____, _____

f. 30, 23, 16, 10, _____, _____, _____

g. 2, 7, 13, 20, _____, _____, _____

h. 1, 4, 8, 13, _____, _____, _____

5. Fill in the blanks below so that they form number patterns.

a. 5, 8, _____, _____, _____, 20, 23

b. 9, 13, 17, _____, _____, _____, 33, 37

c. 4, _____, _____, _____, 20, 24, 28

d. 7, 10, 13, _____, _____, _____, 25

e. 8, _____, _____, _____, 28, 33, 38

f. 15, 18, _____, _____, _____, 30, 33

g. 39, 35, _____, _____, _____, 19, 15

h. 40, _____, _____, _____, 28, 25, 22

6. Determine the two missing terms in the following number patterns.

a. _____, 9, _____, 21, 27, 33

b. 4, _____, 14, 19, _____, 29

c. _____, 9, 13, _____, 21, 25

d. _____, 10, 14, 18, _____, 26

e. 7, _____, 21, 28, _____, 42

f. _____, 9, _____, 21, 27, 33

g. _____, 9, 13, _____, 21, 25

h. 7, _____, 21, 28, _____, 42

7. Arrange the following numbers so that they form a number pattern in ascending or descending order.

a. 1, 5, 3, 9, 7, 11 = _____

b. 3, 9, 12, 6, 15 = _____

c. 15, 20, 10, 5, 25 = _____

d. 6, 14, 22, 10, 18 = _____

8. Determine the number for the following terms in the odd number pattern.

a. 12th term = _____

b. 20th term = _____

c. 35th term = _____

d. 75th term = _____

9. Determine the number for the following terms in the even number pattern.

a. 15th term = _____

b. 25th term = _____

c. 50th term = _____

d. 80th term = _____

10. Draw the pattern of odd and even number configurations for the 8th, 9th, and 10th terms.

Odd Number		
Even Number		

11. Draw the triangular pattern for:

a. the 7th arrangement

b. the 9th arrangement

c. the 12th arrangement

a. b. c.

12. Determine the first four terms of each arithmetic sequence with the given first term a and common difference b.

a. $a = 3, b = -4$

b. $a = 3.5, b = 2.5$

c. $a = 20, b = 9$

d. $a = -4, b = 3$

13. Find the 9th term and the 20th term of each of the following sequences.

a. 2, 6, 10, 14, 18, …, U_n

b. 6, 9, 12, 15, 18, …, U_n

c. 10, 15, 20, 25, 30, …, U_n

d. 30, 26, 22, 18, 14, …, U_n

e. 50, 45, 35, 30, 25, …, U_n

14. Find the 10th term and the 50th term of the following sequences.

a. 3, 7, 11, 15, 19, …, U_n

b. 40, 36, 32, 28, 24, …, U_n

c. 60, 54, 48, 42, 36, …, U_n

15. Find the sum of the first 20 terms of each sequence below.

a. 3, 6, 9, 12, 15, …, U_n

b. 7, 11, 15, 19, 23, …, U_n

c. 11, 15, 19, 23, 27, …, U_n

d. 35, 31, 27, 23, 19, …, U_n

e. 55, 45, 35, 25, 15, …, U_n

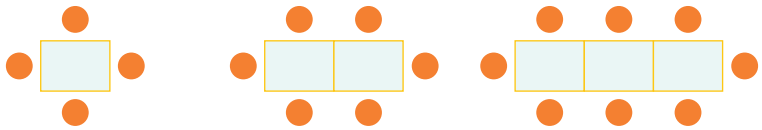
16. Find the sum of the first 10 terms (S_{10}) and the sum of the first 50 terms (S_{50}) for each arithmetic series below.

a. 13 + 17 + 21 + 25 + 29 + … + U_n

b. 50 + 46 + 42 + 38 + 34 + … + U_n

c. 80 + 74 + 68 + 52 + 46 + … + U_n

17. A fast-food restaurant arranges tables and chairs according to the following rule:



Keterangan: ▭ = table ● = chair

a. How many chairs are placed if 5 tables are joined together?

_____

b. How many chairs are placed if 8 tables are joined together?

_____

c. How many chairs are placed if n tables are joined together?

_____

d. How many tables must be joined if there are 24 chairs available?

_____

18. Solve the following problems.

a. Fill in the blanks below so that they form a pattern of odd and even numbers.

1) ____, ____, ____, 51, ____, ____, ____, 61, ____, ____, ____, ____

2) ____, 54, ____, 58, ____, ____, ____, ____, ____, ____, ____, ____

b. Write the formula for the sum of the first n terms of each arithmetic series below.

1) 26 + 28 + 30 + 32 + …

_____

_____

2) 55 + 47 + 39 + 31 + …

_____

_____

c. Determine which row in Pascal's Triangle has a sum of.

1) 32 = _____

2) 64 = _____

3) 128 = _____

d. Determine the general term formula (U_n) for the following sequences.

1) 15, 18, 21, 24, …

2) 45, 38, 31, 24, …

19. Solve the following problems.

a. During a seminar, there were 10 rows of chairs in a hall. The first row had 10 chairs, and each following row had 2 more chairs than the previous row. Find:

1) the number of chairs in rows 5, 7, and 9.

2) the total number of chairs.

3) the formula for the n-th term.

b. Mr Sam planted 15 rows of cabbage in his garden. In the first row, he planted 10 cabbage plants, and each following row had 5 more plants than the previous one. Find:

1) the number of cabbages planted in the first three rows.

2) the total number of cabbages planted by Mr Sam.

c. The sum of three consecutive numbers is 36. If the sum of the first and the third numbers is 24, determine:

1) the first term

2) the third term

3) the tenth term

20. Solve the following problems.

a. Six houses are lined up along the side of a road. The house number of the second house from the left is 8, and the difference between the numbers of two consecutive houses is three. Write the house numbers of all six houses.

b. Rudi carried out an experiment by cutting several sticks to form a number pattern. The first stick was cut into 3 pieces, the second stick was cut into 4 pieces, the third stick was cut into 5 pieces, and so on. If Rudi uses 15 sticks, into how many pieces should he cut the 15th stick?

c. The fourth term of an arithmetic sequence is three times the first term. The seventh term is 1 more than twice the third term. Determine the sequence.

d. Consider these number patterns:

5, 8, 11, 14, …

35, 32, 29, 26, 23, …

Based on both patterns, up to which term do they have the same total (sum of the first n terms)?

e. In the number 3451345134513451… which continues with the same pattern, how many digits "4" appear up to the 75th digit?