

THT WORKSHEETS

Cambridge IGCSE®

Mathematics (Extended)

Learning Pack

Student Name: _____

Date: _____

Recommended Time: 60 minutes

Why This Learning Pack Matters

Cambridge IGCSE Mathematics develops mathematical fluency, logical reasoning and the ability to solve unfamiliar problems with confidence. This Learning Pack focuses on accurate working, clear communication and structured problem-solving across the key areas of the IGCSE syllabus.

Instructions

- Answer all questions.
 - Show all necessary working.
 - Give exact answers unless instructed otherwise.
 - Give units where appropriate.
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1.

Solve the equation.

$$5x - 12 = 3x + 8$$

2.

THT.

A rectangle has length $3x + 2$ cm and width $x - 1$ cm.

- a) Write an expression for the perimeter.
 - b) Find the perimeter when $x = 5$.
-

3.

The ratio of boys to girls in a class is $5 : 7$.

There are **36 students** altogether.

Find the number of:

- a) boys
 - b) girls
-

4.

Simplify completely.

$$3(2a - 5) - 4(a + 1)$$

5.

A shop increases the price of a bicycle by **12%**.

The original price is **\$850**.

Find the new price.

6.

The table shows the marks obtained by 10 students.

Marks

58
61
64
66
68
71

Marks

74

76

82

90

Find:

a) the mean

b) the median

7.

Factorise completely.

$$x^2 - 9x + 20$$

Hence solve

$$x^2 - 9x + 20 = 0$$

8.

A car travels **240 km** in **3 hours** at a constant speed.

a) Find the average speed.

b) At the same speed, how far will the car travel in **5.5 hours**?

9.

The angles of a triangle are

$$(2x)^\circ$$

$$(3x + 10)^\circ$$

$$(4x - 20)^\circ$$

Find the value of x .

10.

A savings account earns **4.5% compound interest per annum**, compounded annually.

THT.

An amount of **\$9,000** is invested for **3 years**.

Calculate the final balance.

Give your answer to the nearest cent.

11.

The graph of a straight line passes through

(1, 3)

and

(5, 11).

Find:

a) the gradient

b) the equation of the line.

12.

A bag contains:

- 6 red counters
- 5 blue counters
- 4 yellow counters

One counter is chosen at random.

Find the probability that the counter is:

a) blue

b) not yellow

Give each answer as a simplified fraction.

13.

Expand and simplify.

$(2x - 3)(x + 4)$

THT.

14.

The circumference of a circle is **44 cm**.

Using $\pi = 22/7$,

calculate the radius.

15.

A company hires out equipment.

The total cost is given by

$$C = 120 + 18d$$

where **d** is the number of days.

- a) Explain what the number **120** represents.
 - b) Calculate the cost of hiring the equipment for **12 days**.
-

16.

The table shows the monthly rainfall recorded in a town.

Month	Rainfall (mm)
January	62
February	55
March	74
April	68
May	81

- a) Which month recorded the greatest rainfall?
 - b) Calculate the range.
-

17.

A two-digit number has a digit sum of **11**.

When the digits are reversed, the new number is **27 less** than the original number.

Find the original number.

18.

A student claims:

"If a quadrilateral has four equal sides, it must be a square."

Is the statement always true?

Give a reason for your answer.

End of Learning Pack

Please check your answers before reading the **Learn With the Solutions** booklet.