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# Functional Skills Certificate

# FUNCTIONAL MATHEMATICS

Level 1

Data Book (Examination)

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## Insert

### Instructions

- This copy of the Data Book is for use in the examination. It should not be given to students in advance.

### Advice

- This book will not be collected in for marking. Ensure that all working that you wish to have marked is written in the space provided in the question/answer book.

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**4367**

**QAN 500/8703/4**

## Data Sheet for Tenpin bowling



### The game

A game has ten **frames** for each player.

In each frame, a player starts with ten pins to knock over.

A player bowls a ball one **or** two times in a frame.

If they knock over all ten pins with their first ball, their frame is complete.

This is called a **strike**.

If there are pins still standing, they bowl a second ball at the remaining pins.

If they knock them all over, this is called a **spare**.

### Scoring

These examples show how to work out a player's score.

#### Example 1 – Sophie's first two frames

##### Frame 1

1st ball → 6 pins    2nd ball → 2 pins

##### Frame 2

1st ball → 5 pins    2nd ball → 4 pins

Here is the scoreboard after Frame 2

1		2	
6	2	5	4
8		17	
↑		↑	
6 + 2		8 + 5 + 4	

After Frame 1, Sophie's total score is 8

After Frame 2, Sophie's total score is 17

**Example 2 – Mike's first two frames****Frame 1**

1st ball → 3 pins    2nd ball → 7 pins  
**spare**

**Frame 2**

1st ball → 6 pins    2nd ball → 2 pins

Here is the scoreboard after Frame 1

The symbol for a spare is /

1	
3	/

The total score after the spare cannot be worked out until Mike bowls his next ball.

A spare scores 10 + the number of pins knocked over with the player's next ball

Here is the scoreboard after Frame 2

1		2	
3	/	6	2
16		24	
↑		↑	
10 + 6		16 + 6 + 2	

After Frame 1, Mike's total score is 16

After Frame 2, Mike's total score is 24

**Example 3 – Fatima’s first two frames****Frame 1**

1st ball → 10 pins

**strike**

Here is the scoreboard after Frame 1

The symbol for a strike is **X****Frame 2**

1st ball → 5 pins    2nd ball → 4 pins

1	
X	

The total score after the strike cannot be worked out until Fatima bowls her next **two** balls.A strike scores 10 + the number of pins knocked over with the player’s next **two** balls

Here is the scoreboard after Frame 2

1		2	
X		5	4
19		28	
↑		↑	
10 + 5 + 4		19 + 5 + 4	

After Frame 1, Fatima’s total score is 19

After Frame 2, Fatima’s total score is 28

**The scoreboard**

Here is the scoreboard for a complete game for Mike.

1		2		3		4		5		6		7		8		9		10	
3	/	6	2	2	/	5	4	X		6	/	4	3	7	2	X		6	3
16		24		39		48		68		82		89		98		117		<b>126</b>	

Mike’s final score is 126

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### Data Sheet for Electricity

Electrical items use different amounts of electricity.

The electricity used depends on  
the power of the item  
the amount of time the item is switched on.

Power is measured in kilowatts (kW) or watts (W).

$$1 \text{ kW} = 1000 \text{ W}$$

#### Using electricity

The number of units of electricity an item uses is worked out using

$$\text{Number of units} = \text{Power in kW} \times \text{Time in hours}$$

#### Example

A 3000 W electric fire is switched on for  $2\frac{1}{2}$  hours.

$$\text{Power} = 3000 \div 1000$$

$$= 3 \text{ kW}$$

$$\text{Time} = 2.5 \text{ hours}$$

$$\text{Number of units} = 3 \times 2.5$$

$$= 7.5$$

The fire uses 7.5 units of electricity.

#### Cost of electricity used

Work out      Number of units of electricity used  $\times$  Cost per unit

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